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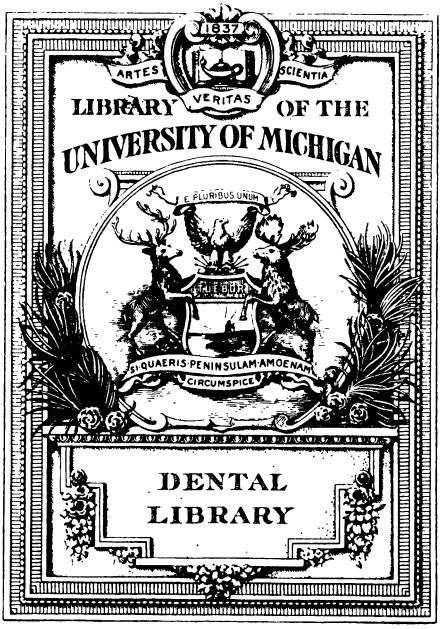
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AMERICAN DENTAL JOURNAL

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Original Contributions

Editorial

Corrections.

The article in the January number credited to Dr. F. W. Stephan should have been credited to Dr. L. J. Stephan.

In the President's Address read before the Wisconsin State Dental Society, July 16–17, 1902, and published in the January number, the name was omitted. The paper was read by E. A. Gatterdam.

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ORIGINAL CONTRIBUTIONS

ABRIDGED RESUME OF THE NORTHEASTERN DENTAL ASSOCIATION.

BY B. J. CIGRAND, M. D., D. D. S.

(Continued from sage 32)

The final essay was delivered by Dr. Charles McManus, of Hartfor Conn. The subject of his paper being "The Makers of Dentistry." The paper was illustrated with 89 stereopticon slides consisting of likenesses of the celebrated dentists, beginning in the fifteenth century and continuing to the present time.

The following abstract of Dr. McManus' paper will be found instructive:

"Emerson says: 'Every ship that comes to America got its chart from Columbus; every novel is a debtor to Homer; every carpenter that shaves with a draw-plane borrows the genius of a forgotten inventor. How easily we adopt their labors!'

"Every dentist at his chair or in his laboratory to-day has had his work made easier and better by the ideas and inventions of those who have gone before.

"I think we can safely say that dental science came to this country in the person of a young officer of the French contingent under the Count de Rochambeau. Joseph Lemaire was a dentist of Paris, who, following the example of many of his countrymen, abandoned his business and tendered his services to the cause of liberty. During the winter of 1781-82, the war being then virtually over, the French and American armies were quartered side by side near Providence, R. I. Lemaire had now and then, to the great comfort and satisfaction of his companions, performed dental operations for their relief, and now many of the officers and others took advantage of the opportunity to secure his services. In this camp we find in intimate friendship Joseph Lemaire, James Gardette and Josiah Flagg. The latter was greatly interested in Lemaire's work and proved an apt and zealous student. Gardette, who had arrived with the French fleet as a naval surgeon and had received instruction in dentistry as required in the French service at that time, was glad to add to his dental knowledge already acquired.

"James Gardette was educated for the medical profession and we have no reason to think that he contemplated the practice of dentistry when he left France other than as a part of his work as a naval surgeon. He soon acquired a distaste for the sea and resigned his position. He went to Boston from Newport and in the autumn of 1783 we find him in New York. His professional success in that city seems to have been small, his limited knowledge of English being undoubtedly an impediment. It was not until the autumn of 1784 that he attained the position which determined his permanent residence in Philadelphia, where he continued to practice for forty-five years. Gardette was one of the first to substitute flat gold bands in place of ligatures of silk or fine gold wire for securing artificial teeth to living ones.

"There were many Greenwoods, and a number of them were dentists, but the most celebrated of them all was Jorn Greenwood, the friend and professional adviser of that great soldier and courteous gentleman, the first President of the United States. Greenwood's father is said to have practiced dentistry in Boston as early as 1770, and his grandfather was the Rev. Isaac Greenwood, professor of mathematics and natural philosophy at Harvard College.

"Born in 1760, he was apprenticed at the age of thirteen to an uncle, a cabinetmaker, but at the outbreak of the revolutionary war he quietly left on Sunday morning while the family were at church and patriotically enlisted for eight months, fighting at Bunker Hill and through the campaign in Canada and at Trenton. He afterward served as a privateersman, was captured at least twice, the first time being released after an imprisonment of five months, and the other time escaping. At the close of the war we find him in New York, without means and receiving but little encouragement from his brother, a dentist in that city. Becoming for a time a nautical and mathematical instrument maker, a mere chance turned his attention to dentistry, but, developing exceptional skill, he soon acquired a practice. Passing beyond the usual limits of tooth drawing, tooth replacing and tooth filling, he boldly entered the domain of oral surgery and treated by novel surgical procedure diseases of the maxillary sinus. But what has made John Greenwood famous is his having been the dentist of George Washington. Time will not permit our dwelling upon the friendly professional relations existing or the many letters that passed between them.

"Horace S. Hayden was born in Windsor, Conn., October 13, 1769. He was remarkable from his childhood, learning to read, it is said, almost as soon as he did to talk, and at once contracting that love for books which continued all through his life. At the age of

fourteen, as cabin boy of a fine brig, he made two voyages to the West Indies. Obliged to leave school at the age of sixteen, he became an apprentice to an architect, with whom he served until he was of age. He then sought employment in Guadaloupe, West Indies, and was fairly successful, but the periodical fever compelled him to return home.

"He now pursued his vocation in Connecticut and in New York, and also taught school, in which work he was strongly urged to continue, but a circumstance had occurred which gave a new direction to his energies. While in New York he had occasion to call on John Greenwood for his professional aid, and during treatment the thought suddenly struck him that he would like to be a dentist. Obtaining what information he could from Greenwood's few books upon the subject and from his instructions, he went, in 1804, to Baltimore, Md., without friends, almost without money and but imperfectly acquainted with his newly chosen art. While continuing to practice dentistry with increasing success, he began the study of general medicine and the extensive knowledge which he acquired secured such confidence and respect that in later life, without solicitation on his part, the honorary degree of 'Doctor of Medicine' was conferred upon him by both the University of Maryland and the Jefferson Medical College of Philadelphia. So respectable was his knowledge of surgery considered that during the attack by the British upon Baltimore in 1814 his services were put in requisition as acting surgeon, and his kindness and skill were fully employed in caring for the wounded.

"Dr. Harris says that about the year 1825 Hayden was invited to read a course of lectures on dentistry before the medical class of the University of Maryland. He contributed a number of able papers to medical journals, embodying the results of some of his physiological researches, and he also devoted much time to the study of geology.

"Dr. Harris, in 1839, published the first edition of his 'Principles and Practice of Dental Surgery.' In addition to this Dr. Harris had felt for a long time the necessity for some means of preserving the experience of the profession and its current literature. To secure this object he visited the city of New York and urged upon a few professional friends the propriety of establishing a dental journal. His plan was readily embraced by a few ambitious minds and a meeting was promptly called of some of the leading dentists of the city. The immediate result was that several gentlemen contributed a hundred dollars each and others sums of a smaller amount, so that

the expense of publication for one year, in monthly numbers, was fully provided for.

"Dr. Harris and Eleazar Parmly were joint editors and the latter gentleman, with Dr. Elisha Baker and Solyman Brown, were the publishing committee. In accordance with the agreement the first volume was issued in the city of New York under the title of the *American Journal of Dental Science.*

"Feeling that only a part of his object had been accomplished by the establishing of a dental journal, Dr. Harris set himself the task of creating facilities for educating young men scientifically for the duties of the dental profession. Accordingly, in the winter of 1839-40, he, almost entirely unaided, obtained signatures to a petition to be laid before the legislature of Maryland for the incorporation of a college of dental surgery at Baltimore. The charter was granted and he took upon himself the duties of one of its most important professorships.

"It is probable that for over thirty years even the smallest dental library was not complete without—or perhaps was complete with—Harris' 'Principles and Practice' and a copy of the 'Treatise on Mechanical Dentistry,' first published in 1860 by Joseph Richardson. This popular author was born in Ohio in 1824, received a good education and studied dentistry under Dr. James Taylor, of Cincinnati, afterward occupying the chair of "Mechanical Dentistry" in several colleges. He died in Indianapolis in 1889.

"Nothing can show more forcibly the way in which the development of dentistry in this country has occurred within the lifetime of some of the practitioners still living than the next portrait. In 1859, forty-three years ago and the year before Richardson's book appeared, there was published a "Practical Treatise on Operative Dentistry," by Jonathan Taft, professor in the Ohio College of Dental Surgery. It is unnecessary for me to more than mention Dr. Taft's name to bring to your minds his long and active service in the uplifting of dentistry in every way.

"Thomas B. Gunning, a well-known New York dentist, seems to have been the first to use vulcanite for interdental splints. He gained a great deal of credit by his handling of the case of a distinguished statesman (Seward), whose jaw was fractured in April, 1865. Dr. Gunning was called after a number of surgeons (army and otherwise) had signally failed in the case, and his treatment was successful.

"A name never to be forgotten by dentists is that of Dr. James E. Garretson. In his special field of activity he filled a unique place. He was the pioneer in a new department of surgery and the creator

of its technique. He brought to the practice of his life work the skill and manual dexterity of the trained dentist, to which were added the broad culture and intimate knowledge of this subject required by the educated surgeon. The permanent record of his labors is embodied in his greatest literary work, the "System of Oral Surgery," first published in 1869 and which has gone through several editions. The practical development of the surgical uses of the engine is inseparably connected with the record of his surgical work.

"Dr. Garretson's intellectual qualities were strongly characteristic. A taste for philosophical and metaphysical study was one of the determining features of his life and it manifested itself strongly in his writings and lectures.

"His fluency as a speaker, his intense appreciation of the divinity which doth hedge a man, his kindness and his sympathetic nature often gave to his formal lectures and addresses an oratorical quality of high grade.

"One of the most representative dentists of the South was Dr. William H. Morgan, of Tennessee. Born in 1818, he graduated from the Baltimore College in 1848, at which time there is said to have been but one other graduate in the state; going the next year to Nashville. He organized the dental department of Vanderbilt University and held the position of dean for many years.

"Among the Western men Dr. George H. Cushing, of Chicago, deserves a foremost place. In considering his life work it is difficult to decide as to the department in which he achieved his greatest success.

"His manipulative ability was of the highest order, in the filling of teeth he had no superior and he was one of the greatest teachers of operative dentistry the profession has ever had.

"Another Western operator of extraordinary skill was Dr. Walter Webb Allport. Born in New York state, he went to Chicago in 1854. It is said that he was the first dentist to take advantage of the cohesive properties of gold for the purpose of restoring the front teeth to their original form when very large portions of them had been lost by decay.

"W. G. A. Bonwill was born in Camden, Del., in 1838, and from his fourteenth year was, as he expressed it, "doing anything from making a gunstock to a blacksmith's bellows or mending tin pans." He turned to dentistry and in 1866 graduated from the Pennsylvania College of Dental Surgery. It is impossible to enumerate all his practical contributions, but his diamond reamer, his electro-magnetic mallet and more especially the automatic engine mallet, his tooth crowns, anatomical articulator and the cord engine, popularly known

as the 'Bonwill,' must be mentioned. An operator of marvelous speed and ability, both in gold and amalgam, a great mechanism, with all that goes with the artistic temperament as well, the profession he loved has profited by his genius perhaps more than we can now realize.

"It was no more than right that after the early men that France sent over to this country we should return the compliment with, perhaps, the most popularly known dentist of his time, Dr. Thomas W. Evans, of Paris and Europe. He studied with Dr. J. D. White, practiced for a short time in this country and then went to France and entered into partnership with the celebrated Dr. C. Starr Brewster. About 1850 he opened an office in the Rue de la Paix and entered upon a career which was wonderful, unique and too well known to need repeating here. This portrait was taken during his recent visit to this country and is probably the last one he ever had taken.

"Another early American dentist in Paris was D. B. J. Bing, who, as far back as 1869, is said to have originated the "idea of employing the natural teeth on either side of a dental vacancy as abutments of a prosthetic bridge, firmly and permanently fixed to those teeth and carrying an imitation tooth or teeth which, while conforming to the process vacated by the removed tooth, was yet kept from resting upon the gum and was wholly supported by the abutting teeth." This was called the "Bing bridge," and the invention embodied the fundamental idea of the modern permanent bridge, of which many of the subsequent forms of practical bridge work are modifications.

"I will now close my long paper with the portraits of three men, all well known to you, all Americans, I am proud to say, but only one of whom lives in this country:

"Prof. G. V. Black, of Chicago.

"Dr. J. Leon Williams, of London, England.

"Prof. Willoughby D. Miller, of Berlin, Germany."

All practitioners who are interested in the biography and history of the early practitioners will find this a valuable contribution. The entire paper will be published by the *Dental Cosmos.*

and owing to the fact that the majority of our members have left

)To be continued-)

OBTUNDING SENSITIVE DENTIN.

BY R. B. TULLER, D. D. S.

The secret of obtunding sensitive dentin lies in inducing cataphoric infiltration of the medicament used. It must go not only into the dentinal substance, but through that denser part to the pulp. Few things in the way of medicaments have any effect on the sensitiveness when simply placed in the cavity in contact with the walls. If possibly a thin layer is obtunded with some escharotic, what is the advantage if the first sweep of an instrument cuts through to the quick again? The idea prevails with many, I am sure, that the obtunding or anæsthetic process is a diffusive influence in all directions from the cavity through the dentinal tissue itself, without necessarily involving the pulp at all; that is to say, a layer of dentine all around the cavity may be obtunded without the pulp being involved in the influence, or without regard to direction of tubuli. That, I believe, is erroneous.

The tubuli of dentin all radiate from the pulp as a center. Some of them terminate directly in the cavity of decay; others take a direction to parallel the walls. Those which do not terminate in the cavity cannot be *directly* affected by an obtunding or anaesthetic agent.

Now, cocaine solutions, and medicaments of that nature, have little if any effect, in my experience, upon the protoplasmic contents of the tubuli by lying merely in contact with the open ends. We know that the electric current properly applied will induce infiltration of the solution into the protoplasmic mass. I do not imagine such infiltration causes much, if any, displacement of tissue, but that our medicament by force or inducement enters much, I might say, to illustrate, as coloring matter seems to enter water, without any displacement. I don't know that such really is the case, but it seems so, and I cannot imagine much physical displacement of the contents of dentinal tubuli, anyway, by the passing of an electric current. With the pressure method of forcing a solution into the tooth substance I could better imagine a displacement. When we come to forcing a solution into an *exposed pulp*, we may displace some of the fluid—the blood. But I am not satisfied about it, for while in some instances I have removed pulps under pressure anaesthesia that were white and bloodless, I have taken out others, thoroughly anæsthetized, that presented the usual pink color. I think others will bear out this experience.

We all know the experience with electric cataphoresis and its expensive apparatus. Its operation was generally slow and generally more or less painful—at least unpleasant—taking from twenty minutes to a half hour to get obtunded results; and then, often, not perfect or satisfactory. And yet it often seemed to work too fast and go

too far. No one seemed to be able to tell just what was going on or when to shut the current off, and serious and unlooked-for damage resulted; not always discovered, however, until some time after. The length of time necessary to produce anæsthesia and the unsatisfactory workings and results brought about its almost entire abandonment.

Now, I am satisfied in my own mind that no satisfactory anaesthetic condition—no pain in excavating any and all parts of cavity—is brought about until the pulp has first been reached. No doubt the contents of the tubules through which the cocaine reaches the pulp are anaesthetized, but some portions of the cavity do not yield until the pulp yields, or an area of it that controls all fibrils, or protoplasm involved in removing caries and enlargement of cavity to healthy dentin. I do not believe there is much diffusion of the cocaine solution or influence from tubule to tubule or laterally through the dentin. Several demonstrations made by me in the past few months, which I will describe further on, seem to point that way, if my deductions in reasoning have been correctly made.

I do not know whether what is called pressure anaesthesia antedates the use of the electric current or not; nor do I know whom to credit with the discovery that a medicament confined in contact with dentin could under pressure be forced into that substance and into the pulp. The secret of performing that operation successfully is all in confining the fluid in contact with dentinal tubuli so that it cannot ooze out and escape under the pressure required. Most of the failures in the pressure method can be laid to that trouble of wasting the solution when one thinks it is going into the tooth substance. In ideal conditions a plug of gutta percha or red vulcanite rubber may be pressed behind a pellet of cotton saturated with cocaine, or other such solution, and thus be so confined as to produce good anaesthetic results. In cavities without walls on one or more sides, or that have fissured walls, the thing is not so easy. One may press a half hour, sometimes, without results, simply because the medicament escapes back along the plug, through some fissured wall, or out where there is no wall. No amount of pressure avails when medicament readily oozes out.

Now, the demonstration I have made many times is this: I have confined my medicament to one little spot on the floor of the cavity, directly over tubules leading to the pulp, and quickly anaesthetized or obtunded the whole cavity so that subsequent excavations were absolutely painless.

Now, what happened? I reason that my force applied to the confined solution sent it through some of the tubuli clear to the pulp. In the soft pulp tissue diffusion took place laterally, as well as toward the center, and an area was anaesthetized controlling the radiating tubules and paralyzing the nerve filaments, or protoplasmic

substance, as the case may be, reaching some distance further than the cavity extended—a sort of reflex action, I may say. So, I say, a minute quantity of cocaine solution will go a long way when made to go exactly where wanted.

Further than this, there is no broiling of the pulp, as was claimed for the electric current; and the thing is under better control, and I do not think pulps are injured, but speedily recover normal conditions. I apply pressure for a minute, then test. If dentin is still sensitive, or I soon come to sensitive spots, I repeat. I cannot handle all sizes and conditions of cavities, and now and then I fail when I cannot account for it, except that we are working blindly, as the method is self-obstructing to vision and I believe my manipulation is faulty. I am satisfied that there is simply a resisting condition in some teeth—dentin too dense, or something like that, for results are better and quicker in some cases than others. I think, however, it is very often a fault of some condition that might be easily remedied if one could locate it. Pressure when conditions are right and solution confined in contact with dentin is much more positive and quicker generally than electricity and I believe there is no danger of harm. Often one minute is quite sufficient to bring satisfactory obtunding. It takes longer to thoroughly infiltrate an exposed pulp for painless extirpation.

There is danger, in my estimation, in handling our tooth after it is devoid of sensitiveness, and this, of course, is a grave danger. The tendency is to rush things when there is no pain, and then too long a contact of a revolving bur may produce heat enough to give a death blow to the pulp. And again, without care and judgment the pulp may be unintentionally exposed.

But we ought to be wise enough and skillful enough not to do either of these things, but use the science we have acquired rationally to our advantage and the relief of our patients in many, many cases which present highly sensitive teeth which must be excavated so thatthe cavity may be properly stopped and further decay prevented

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BACTERIOLOGY AND PATHOLOGY.

BY GEO. W. COOK.

In the discussion of the subject of bacteriology and the biological relations of these micro-organic structures we have tried to explain some of the functional activity of bacteria and the part some of these organisms play in the causation of certain disease processes in both the higher and lower forms of animal life.

We have in several instances alluded to the part played by certain parasitic diseases of plants and the activities which these micro-

organisms play in the physiology in fermentation and decomposition of both vegetable and animal life. When we remember that the physiology of plant life differs considerably from that of animal life, and take into consideration a low form such as the fungi and bacteria we find that many of the low forms, namely, bacteria, are capable of performing certain functions of plant life and take on some of the functions of the animal. For instance those unicellular organisms which have no chlorophyl cannot assimilate carbon from carbonic acid like the higher plant life, but their carbon must come to them in the form of an organic compound. In this respect they resemble the animal kingdom, while on the other hand they can obtain their nitrogen from inorganic substance; here their behavior is like that of plants.

So we see that the physiological activity of many of these low forms of both vegetable and animal life have functions which resemble each other in a way, that the task of separating the two kingdoms by clear and definite line of demarcation is by no means an easy one. And that the study of bacteriology and its relation to disease is liable to lead the student to believe that all forms of disease is due to the low forms of vegetable life, but it is well to bear in mind that this is probably not true, for it has been found as early as 1871 by Loesch, and farther demonstrated by Koch and Kartulis that a form of disease known as dysentery was caused by an amoeba which unquestionably belonged to the protozoa (animal). The disease was successfully produced in the cat and dog by the introduction of this organism. This is pretty conclusive evidence that this organism was the causative factor in the production of this pathological process; although certain forms of bacteria were afterwards found in the lesions; but the investigators at the time came to the conclusion that these bacterial forms were accidental and had no special reference to the cause of the disease.

There is a disease that is well known in man and is produced by a microscopic organism; and was first observed in 1882 by Laveran. He at that time found that these organisms changed their shape very much in the same way as did the amoeba; thus the conclusion that plasmodium of malaria belongs to the protozoa. Marchiafava, Celli, and Gebhardt found, by the transfusion of blood from individuals in whom the parasite was present, into those who were free from the organism, that they afterwards contracted the disease and gave all the characteristic symptoms, which was experimental evidence sufficient to establish the etiology of this disease that was caused by a disk-shaped organism with a nucleus very much larger than the cytoplasmic substance. It was shown, however, that as the organism grew older the nucleus gradually diminished in size, and the cytoplasmia became more granular in appearance, while in the younger forms the last named substance

is more homogenous. The granular pigments found in the older forms are usually designated as malarial pigments, and are usually supposed to be the digested altered condition of the haemoglobin; consequently have been named melanin. The older forms of this parasite develop flagella, the ends of which become somewhat enlarged. After the blood has been drawn containing these micro-organisms their forms seem to become more or less changed. As they appear in the circulating blood they are usually of a crescent shape. The changes which take place outside of the body are first to a spindle shape, then an oval, and the last to a spherical.

There is some question, however, as to whether these various changes do not take place in the circulating blood. The peripheral portions of these disk forms become somewhat notched-like in appearance, forming a sort of rosette. On the other portion of this rosette a spore formation takes place, and in a very short time these spores are liberated and allowed to wander around until, eventually, by apparently a chemotropic process, they are carried to the red blood corpuscles from which they apparently derive their nourishment from the haemoglobin. Golgi is of the belief, because of the different forms which appear in the blood, that we have three forms of this parasite and that each variety is the cause of the special kind of malarial fever. This belief has been very largely accepted by physicians and investigators; but with our present knowledge of the possibility of many of these low forms of life undergoing various morphological changes due to certain electrolytic forces, which must ever be present in the material from which all living organisms take into their body to replace the loss which is constantly going on there, it would be logical to say that the plasmodia of malaria is a pleomorphic organism and that it is capable of undergoing these various morphological changes under which these organisms go.

I have here called attention to this form both for biological and pathological reasons. In the field of pathology we have found an etiological factor in a pathological process that differs very considerably from any that we have heretofore called attention to. The organism differs in a great many respects from any of those we have heretofore described. Its pathology has a wide variation, because at one time there may be an enlargement of the glandular substance of the body and at another time it may effect the cerebral nerve center, causing some of the most obscure clinical symptoms, all of which are due to the particular effects which the organism has on different individuals.

We have a parasite here that has never been cultivated artificially, consequently, its morphology and biological relations to this disease process have only been studied in the mosquito and the human blood. This organism serves to illustrate that there are a number of organ-

isms microscopic in appearance, the physiological and pathological being the only properties of which we are acquainted. It is an evident fact that there is a great deal to be learned about those that we are more or less acquainted with in the animal and vegetable kingdom. There are two propositions, however, which should ever be borne in mind; first, the substance to be acted upon and, second, the agent that is to excite the process known as disease. It is much more difficult to determine where the physiological functions of the body cease and the pathological process is inaugurated than one at first realizes.

One of the distinguished features of the civilized man over the primitive races is that of obtaining knowledge, seeking after the causes of phenomenæ. The first scientific knowledge probably dates back to the time when man began to study the environing conditions with their relations to disease; and the records of such thoughts are found in the writings of Diodorus and Hippocrates. Since their time the study of pathological phenomena has passed through various periods. Among the Greeks it was thought that the cause of disease was some offended God and the only relief was sacrifice and prayer and a pilgrimage to some other part, and from the period of Homer we find that such relief has been more or less recorded, and today we find among certain classes of people a belief that disease is personified in the mental condition of the individual. This belief was not entirely divorced from the minds of scientific thinkers in anatomy and physiology until the publication in 1666 of a celebrated treatise entitled Methodus Curandi Febres Propiis Observationibus Superstructa, by Sydenham, who clearly distinguished the difference between some certain well defined symptoms of such infectious diseases as smallpox, scarlet fever, measles, pneumonia and cholera. But this writer was not able to define very clearly the difference between the internal and the external cause of diseases; for he was of the opinion that the cause of such diseases was an internal one, consequently he did not distinguish the difference between the predisposition to disease and the cause of disease.

The scientific investigations of disease rested in about this way until the establishment of the cell theory by Schleiden and Schwann in 1838 and '39. Later Virchow and Max Schultz demonstrated that the various functions of the body were but the outward expression of the biological phenomena of both physiological and pathological processes. Virchow, in following up the functional activities of the cell in its various pathological processes, came to the conclusion that the essence of disease was in the cell; thus establishing his well known cellular pathology. Later the investigations of Koch proved that certain diseases were caused by the presence of certain bacterial forms of life with certain pathological processes;

and then it became apparent in the minds of a great many scientific thinkers and investigators that bacteria was the true and only cause of disease. According to the latest and most advanced scientific thought disease is truly a biological phenomena that results from an internal or external cause, but, however, we still have a number of ill-defined symptoms supposed to arise from the non-elimination of cellular excretory products or the non-oxidation of certain nitrogenous matter. These are called auto-intoxication. Primarily these conceptions were based upon the fact that all plant and animal life excrete certain substances which are poisonous to the cell from which they come. The question naturally arises: Where do these animal excretions originate? It is a well established fact that if one took only pure food, pure water, and breathed only fresh air, that the excretions of the body would contain poisonous substances. These poisons have not been found in the normal tissues of the body.

The study of protoplasmic chemistry shows that cellular elements which compose the animal body are capable of acting chemically upon dead organic matter; first, by synthetically building up the simpler organic molecule into a more complex molecular structure known as the proteid molecule. The second process in the animal body is that of acting analytically, breaking up the higher complex proteid molecule. This latter process is known in physiology as a process of oxidation. Each cell in the multicellular bodies may be considered as an individual unit, capable of performing all the functions of life, namely, the taking in of food and oxygen, and excreting carbon dioxide CO_2 and a number of nitrogenous waste products, such, for instance, as uric acid, xanthin and urea, etc. The nitrogen taken into the adult animal body should equal the nitrogen excreted in the form of xanthin, uric acid and urea. This last named substance is a comparatively simple molecular constituent chemically formed in the process of splitting up of the proteid molecule. In the splitting up of the proteid molecule in this way there is formed a number of intermediate products which are looked upon as steps in the oxidation process; they are antecedents of the nitrogenous and produce urea. Among these might be mentioned certain of the amido compounds: Adenin ($C_5H_5N_{y4}$); Hopyxanthin ($C_5H_4N_4O$), xanthin ($C_5H_4N_4O_2$), guanin ($C_5H_5N_4O$), uric acid ($C_5H_4N_4O_3$), etc. The term that has been applied to these compounds is known as leucomaina. They are very closely allied in chemical composition to the basic nitrogenous crystalline substance found in plants known as alkaloids. In fact there are two substances found in plants that are classed as belonging to the so-called leucomain group, namely, caffein and theobromin. In the vegetable kingdom these compounds cannot be considered as transitory oxidation products, but as an integral part of the proteid molecule; so in the animal proteid these may exist as a part of a

molecule, only to be split off by certain chemical manipulations necessary for the excreting products. As for their being poisonous to the body, I think it can scarcely be admitted any more than that caffein is poisonous to the coffee tree, or nicotine to the tobacco plant; for in both cases these alkaloids exist, not as pure xanthin or caffein, but in the proteid compound which renders them non-toxic to the plant or the individual in which they are found. That the proteid matter is excreted from the animal body in the form of urea must be admitted, but we have little or no evidence that certain basic substances in the dead proteid matter are intermediate oxidation products. It is well known that if urea be retained in the body certain toxic symptoms will be produced (uremia). To this we might apply the term auto-intoxication.

In this country Vaughan has written extensively on what he terms autogenous disease, or disease arising from within, without any external stimulus in the form of bacteria or other agency. From the evidence at hand we must admit that there are, or at least could be, pathological conditions arising from within, due to the retention or non-oxidation of the products of cell metabolism, just as we know that retention of urea or uric acid may give rise to pathological conditions and toxic symptoms. But from a study of biological pathology we cannot admit that these so-called autogenous symptoms are primary and independent of external disease stimuli. Under normal conditions the animal body as a whole is able to dispose of its own excretion through the bowels, kidneys and skin; likewise every cell is able to contribute its normal quota of excretory matter to the general avenues carrying off the waste products; but let any of these general avenues of excretion cease to do their work and toxic symptoms will soon develop. Going back still further, the individual cells may cease to excrete their dead matter and cause retention which is caused by toxic symptoms. But the primary cause which so changes the chemical constituents of the individual cells that they no longer carry on their work in a normal way, or so changes the kidneys that they no longer excrete the normal amount of urea from the body, or poisonous decomposition products in the bowels, must come from without, some agency acting as a disease stimulus. This view must do away with the term auto-intoxication, or the autogenous disease as a primary pathological entity, and reduce such conditions to the plane of secondary conditions following the external disease stimulus.

This is well illustrated in rheumatic fever, which has long been looked upon as a form of autogenous disease, due to the retention of non-oxidation of certain nitrogenous cell products, viz., uric acid and some others of the xanthin basis. Admitting that certain of these do accumulate in the form of urates in the body during rheumatic fever, the primary exciting cause of it is now looked upon as a germ

entering the tissues and so changing its chemical constituents that oxidation cannot be carried on normally, and thus gives rise to the rheumatic pathology. Adami has demonstrated almost beyond doubt that pernicious anemia is secondary to external causes. This so-called tired feeling and common headache is due to bacterial causes.

All biologico-chemical investigations are forcing us to answer these questions in the affirmative. We have many reasons for believing that many of the so-called auto-intoxications, or autogeneous diseases, are due to a chemical change in the proteid molecule of the cell caused by a chemical change in the cell environment. This must necessarily bring about a change in the metabolism, thus liberating the poisonous products of the cell. But where shall we look for the primary cause? In nature all organic matter is reduced to its primary elements by the agency of bacteria; that is, by the enzymotic or fermentative way, giving rise to certain changes in the cell. This is well illustrated by the action of bacteria on the contents of the large bowel, forming indol, skatol, phenol and other substances, which if absorbed into the system may act as poisons.

According to the writings of a number of authors they frequently confound auto-intoxication with auto-infection. What is understood by the term auto-infection i sthat where the exciting factor of disease is transported from the primary seat of the lesion and infects another field; thus, for instance, in case of a tubercular gland of the neck, some of the virus of disease was transported to some other part of the body, that would be considered auto-infection. It is a well known fact that bacteria may and even do pass through the walls of the intestine and enter into the general circulation. In such cases there would necessarily be a change in the blood which would act upon the cells of the body, changing their activity. This Adami has called sub-infection. So far as we know we can practically trace all of those cases of auto-intoxication to a primary sub- or auto-infection from either the bowels or respiratory tract. We might reason from another standpoint, and that is the interferences with the normal function of digestion. When we consider that digestion in the broad sense of the term is the sum total of the processes by which food stuff as taken from plant and animal are prepared for absorbtion into the tissue where a chemical change of the tissue and certain substances are excreted as waste products. In the higher animal we have special organs to carry on what is known as the external and internal digestion.

The alimentary canal is a muscular tube that runs under various names through the entire body, and in this alimentary canal there are certain chemical changes in the food stuffs which are brought about through the agency of certain ferments or enzymes. These are bodies which are found in all plants and animals which by their

presence or coming in contact with certain chemical substances are capable of inducing certain chemical changes in the body with which they come in contact without themselves being changed; consequently, we find along the alimentary canal which is physiologically capable of secreting these ferments a glandular substance which has a specific function of producing these fermentive substances, which have the power of disassociating or bringing into solution food stuff in such a way that it is capable of passing through the walls of the intestinal canal; for it is a well known physical fact that diffusion and osmosis can only act when substances are in solution, and these forces are called into action in the process of absorbtion. The first one of these enzymes that the food comes in contact with is that well known substance secreted with the salivary glands and is called ptyalin. It is what is known as non-organized ferment. It is the product of living cells, but has no living property itself. Its specific action is on one of the main food principles, which is commonly designated as carbohydrates. A very similar ferment is secreted by the pancreas and has the power of converting starch into maltose and dextrose, in which form the starches are absorbed. There is a number of chemical changes through which these substances pass, but all of these changes are due more or less to the taking up of water. One of the main food principles that we have to deal with in the process of digestion is that well known substance albumin or proteid substance. The digestion of the albumin takes place very largely in the stomach and small intestines. The chemical changes which takes place in this food principle is brought about by pepsin of the gastric juice and trypsin of the pancreatic juice. The first one of these acts more energetically in the slightly acid media, while the latter acts best in a slightly alkaline media. Owing to the lack of accurate chemical knowledge of the proteid molecule the chemical changes through which this substance passes cannot be traced so accurately as can the changes which take place in the digestion of carbohydrates, but the steps seem to be about as follows: Albumin, acid albumin, albuminosis and peptones. Trpysin of the pancreatic juice apparently has the power of splitting up the peptones into amido acids, viz., leucin $C_6\ H_{11}\ (HH_2)\ O$ and tyrosin $C_3\ H_4\ (C_6\ H_4\ OH)\ NH_2)\ O_2$. Here we have the process taking place in about the following way: Albumin, alkali albumin, albuminosis (leucin tyrosin). The peptic and triptic digestion seems to be an electrolytic disassociation of the proteid molecule with the taking up of water. When this process of dissociation is carried on to a complete solution it is called the peptone stage. It is a well known fact that bacteria have a like chemical action in the liquifying of certain colloid substances, and are capable in their physiological activity of carrying albuminous substance through the same processes of disassociation.

Fats and oils which are usually considered the third food principle are dealt with very much in the same manner by being split up into glycerine, and into their respective fatty acids, and as such pass into the body. This in brief is called external or alimentary digestion, which is accomplished by means of the body secreting enzymes for the reduction of food into a state of solution rendering it capable of absorbtion. The same chemical process is capable of being accomplished by the enzymatic action of certain bacteria.

Internal digestion is practically the reverse of the external process. In the tissues the liquified colloids are built into tissue substance. The maltose and dextrose are partially stored up in the body as glycogin, and the glycerine and fatty acids are again united to form what is generally known as tri-glycerites. The part of the glycerine and fatty acids that is not used to restore body tissue are again broken up into urea and carbon dioxide as the result of work. It is plainly seen from the foregoing that all digestion is a chemical process by the self-secreted enzymes of the body, and that no outside influence is needed to carry on this chemical process.

It therefore will be seen that if these food principles become contaminated with external agents such as bacteria their chemical processes might become very materially interfered with; for it is well known that bacteria acting upon solutions of carbohydrates lactic acid is formed, and in the case of fats they can be split up by the actions of certain fungi into fatty acids and glycerine that contain but little energy. When bacteria act upon fat it is usually spoken of as butyric acid fermentation. When bacteria act upon proteid substances there is usually formed ammonia compound, some of which is capable of acting in a deleterious manner upon the multicellular substances. These substances are usually termed putrocine and tyroleucin, etc., and are usually known as ptomaines or toxines.

The intestinal digestion of an albuminous substance forms an adequate media for the development of bacteria where they can carry on the processes of elaborating their toxic products heretofore mentioned; phenol, indol, skatol, and tyrosin, all of which are capable of being absorbed into the body tissues where they unite with the sulphuric acid of the body, and are finally thrown off by the kidneys as conjugated sulphates. The bacteria acting upon the fats in the process of intestinal digestion, as we have said, forms fatty acids. Bacteria may also produce lactic and propyonic acid in the stomach, but these last named substances are more likely formed in the oral cavity.

It is a well-known fact that when noxious gases such as Co_2 NH_3 So_2 are inhaled by the lungs, they enter the blood and act on the cells of the body in a deleterious manner by interfering with the normal processes of respiration. Thus it can be seen that when bacterial intestinal products are absorbed in a similar manner that

the processes of internal digestion may likewise be interfered with, and those chemical agents that are chemically formed by the enzymatic action of bacteria may produce an irritating and inflammatory change of the tissues, and the symptoms as they are usually observed are looked upon as auto-intoxication, or those diseases which arise from within the body; but such processes could hardly be considered as true auto-intoxication. When a bacterium through its physiological process produces such substances as lactic or butyric acid, or forms indol or phenol, and these substances are absorbed, they may produce certain specific symptoms, though these substances may be produced in such small quantities and their absorbtion may be of a slow process, still they will bring about certain specific symptoms, though these symptoms may not be so marked as those observed in cases of diphtheria or typhoid fever, which usually run an acute and severe course.

As the results of inheritance and individual adaptation to environing conditions, an individual must have a certain amount of predisposition to disease, and this predisposition may be carried to a point of extreme acceptability. On the other hand, he may have inherited or acquired through certain environments an extreme resistance or immunity. These are conditions that may cause the setting up of a disease process or entirely prevent it.

In the discussion of bacteria and their biological relations to their environing conditions we have seen that they are capable of bringing about in their physiological activities certain functions which are observed in the animal and plant digestion. We have farther observed that they are capable of even carrying this chemical process farther even that the animal body, so far as their toxic properties are concerned. We have seen also that these bacteria have somewhat the same physiological function as animals, while on the other hand their physiological activity is very similar to that of plant life.

As bacteriology has so closely identified itself with disease conditions there has been a wonderful amount of investigation as to just how they produce these pathological processes, and, as yet, the question is by no means settled, but the weight of evidence seems to be mostly in favor of their setting up a diseased symptom which is so characteristically identified with certain of these organisms as specific infectious diseases, running a well defined course, and are caused principally by an intercellular substance formed within the bacterial cell and is liberated into the tissues of the body and at the present time are spoken of as bacterial cell toxines, which will produce, when inoculated into the animal body, entirely freed from the bacterial cell. These toxines bring about the same characteristic symptoms as those found when the bacterial cell itself is allowed to inhabit the animal tissue and there liberate its cell products according to its own physiological function, and its capability of adapting

itself to an environing condition which it is not always permitted to inhabit.

It has farther been shown that many of these micro-organisms are cultivated by any or by all the artificial means now known. They are incapable of setting up all of these diseased conditions that are sometimes found when they are derived from a source, which in many instances it cannot be determined upon what food stuff they lived previous to entering the body. A good illustration of what environing conditions may bring about in a bacterial cell is in the bacillus of tetanus. This organism may gain entrance into the animal body by traumatism from a rusty nail and set up all the disease symptoms pertaining to this pathological process. It may then be removed from the tissues of the body and cultivated in the presence of the free oxygen of the air, and it will soon lose to a large extent its virulent properties, but if again returned to a culture media where it can obtain oxygen other than that from the oxygen of the air, it will again return to a virulent condition.

We have previously shown that bacteria are capable of changing morphological appearance by changing environments. What is true of their morphology and its capability of being changed is possibly also true of their pathological properties. These changes cannot be produced instantaneously, for nature's process is an involuntary one; but when we think of the life cycle of bacteria which is so short that an evolutionary process that would be necessary to bring about a morphological or pathological change would be accomplished more quickly than that of any other animal or vegetable life that we are at present acquainted with. When we think of the several hundred generations that can be developed in twenty-four hours, we can more readily understand why it only takes a few days at a slight raise of temperature to render certain of the most resistent and pathogenic germs to a non-pathogenic state; for it has been found by a number of investigators that if the anthrax bacillus is cultivated at a temperature of five degrees above its optimum temperature for eight or nine days it becomes non-pathogenic and remains non-pathogenic, while if the temperature be lowered, say only two or three degrees, below normal, it would take twenty-one days to render it non-virulent, but it will remain non-pathogenic just in the same way. We must admit then that environment has considerable to do with the virulent properties of the micro-organism, and that the predisposition either by inheritance, or acquired, plays an important part in the setting up of the disease process; so we are forced to one conclusion as regards disease, and that is that it is a micro-biological process, and that there are two factors to be considered; one the virulency of the micro-organism, and the predisposition or the susceptibility to its action.

(To be Continued)

THE ART IN FACIAL PROSTHESIS.

BY B. J. CIGRAND, M. S., D.D. S.

Read before the Dental Society of the School of Dentistry–U. of I., May, 1902.

Something over one hundred years ago the first Fine Art Society was organized in America. The founder of this association was a prosthetic dentist, the famous C. W. Peale, who in the latter years of his life devoted considerable attention to portraituring, and distinguished himself by portraying the most life-like likeness of General George Washington.

Mr. Peale was supported in the undertaking by Ceracchi, the great Italian sculptor. The initial meeting was held at Philadelphia in the year 1791.

With such an honorable heritage we are entitled to venture suggesting a few ideas relative to the art in facial and oral prosthesis. Our claim to this we establish because of the renown of our worthy colonial practitioner.

One of the most gratifying evidences of the progress of modern dentistry is the ever-increasing interest manifested in the study of the various branches and collateral sciences. The profession is gradually comprehending that the proper way to learn lessons of wisdom for the future is to give immediate attention to such items as pertain to our vocation regardless of what calling contributed the thought or supplied the mechanism.

Fine art and sculpture will in the future be more closely studied by dentists, and these professions will contribute many elements to the art and science of dental restoration. Now since the distinctive feature of dental prosthesis is "Restoration," you can readily comprehend why the dentist who is continually sought to restore faces must of necessity be thoroughly prepared to replace the lost features, and rebuild the lost symbols of individuality and character. He must have a clear conception of the outlines of that which is to be established, and constantly have the imaginary ideal vividly before him. In all grand works of man the ideal was ever the basis of the real. In our own modern city take for example the magnificent Auditorium, with all its halls, porticoes, entrances, pillars, stairways, arches, balconies, and tower, was all designed by the architect in all its grand proportions and arrangements before the foundation stone was laid.

Dr. Allport once said: "He who has but moderate ideas of symmetry, harmony of expression and color is constantly pained by lack of that artistic selection and arrangement of artificial teeth which serve to restore to the face the shape and expression left upon it by the Creator, the absence of which in artificial dentures stamps him who should be an artist an *artisan—a mere mechanic—a libeller of the soul—a deformer of the human face divine.*"

We can only know how thoroughly scientific, artistic and technical the restoration of the face is when we hearken to that great lecturer Fuseli, who says: "If the nose of Apollo be shortened but one-sixteenth of an inch the god of physical beauty would be destroyed." If this be true it should lead us to be very cautious as to the duty of our calling, and ever remember that the perfect restoration of the countenance, with the original power of expression by art, as to defy detection, is one of the crowning glories of dental prosthesis.

No fairer justice to the subject of prerequisite qualifications of the student of dental prosthesis can be had than by quoting the able scholar, Dr. W. W. Allport, who said:

"It is in prosthetic dentistry the dentist has the greater field for the use of art. It is for him to so construct substitutes for the natural teeth that they will harmonize with the works of the Creator that surround them, and be so true to nature in size, shape, color and position that they will not produce discord in the facial expression. There is an individuality in everything that God has made. There are no two blades of grass, no two flowers, two faces, two eyes, nor are there any two sets of teeth, that are alike. They may be similar in type, but not in detail, and it is this detail that gives the specific individuality by which we are enabled to tell one from the other. Between these details there is a harmony that makes any one part a fit companion of its surroundings. Any important change in any of these details would—to the extent of the change made—alter the individuality of the original. As there are no two things exactly alike in nature, there can be no exact rules by which anything in nature can be imitated. There are, however, rules which may be aids in producing general outlines, but it is the soul and feeling of the artist that works out the details which gives life to the substitute. A mechanic, pure and simple, may construct a set of teeth and make them serviceable to the wearer, inasmuch as they will fit and be strong and useful in mastication. But only he who has the artistic feeling and skill will be able to select his materials and so adapt them in the mouth that they will harmonize with the complexion and anatomy of the face and be true to nature. From infancy to old age there is harmony in contour, as well as in color, and there is change and adaption of one to the other at every stage of life. The hair that would be becoming to a girl of sixteen would not be suited to the same person at sixty. Hence nature changes the color of the hair to be in keeping with the face as age advances. The same is true of the teeth; all change and grow old together, and there is beauty in age only as there is harmony. To attempt, therefore, to make the face look younger than is natural, attempt, therefore, to make the face look younger or more attractive by making any one part of it appear yonnger than is natural,

is a great mistake, for the other parts suffer by an inharmonious contrast which always unpleasantly attracts attention."

On this same subject Dr. Joseph Richardson, one of the beacon-lights of Dental Prosthesis, says:

"Among the unnumbered millions of human beings who have peopled the earth since the dawn of time, it may be affirmed that no two have been created with faces exactly alike. There is the same aggregate of features, and a pervading general resemblance of one person to another, but there will be found as infinite a multiplication of distinct shades of facial expression as there are human faces, and each separate shade of expression characteristic of each one, and distinguishing him or her from all others, constitutes facial individuality. Each separate feature—as the eye, the nose, the mouth, the teeth, facial contour, complexion, temperament, etc.—contributes to this individuality, and no one special feature more, perhaps, than the teeth."

It is said that "a poet is born, not made," and this old saw is in a certain sense applicable to the dentist. In order to advance and be successful in the dental profession, the practitioner must have certain definite qualifications and inclinations. And these essentials must be his or her natural trend of character.

In short, he must be as Dr. Marshall says: "Thoroughly conversant with physics, with mechanics and with metallurgy. He must acquire a delicacy of touch and a manipulative skill of the very highest order; his eye must be trained to a keen perception of form, color and harmony, and his hand to execute the thoughts of his brain; in other words, he must be an artisan, artist and physician all in one."

Thus, a good dentist should, indeed, be a man of great refinement, of artistic conception, with a true sense of the proportion of things, and of the harmony of colors. We have only to look at the teeth people often wear to notice that this is not very often the case. It must be remembered that in nature there is a great beauty in the irregularities, in what is often called the ugliness of shape and color. The harmonious reproduction of missing teeth is among the happy tasks of the conscientious prosthesist.

One of the prerequisites to study and practice of this specialty is a talent for and knowledge of art. The proportion of good artists who could have made good mechanics is very large, while the proportion of good mechanics who could have made good artists is very small. A person may have great mechanical ability, but little or no artistic sense. There are few dentists who have any idea of proportion or feeling for color. This is why we see so many mouths filled with abominably unnatural looking artificial teeth, and this condition of things will never be greatly improved till more attention is given to art in this department of practice. It would

be useless to attempt to develop this talent in every dental student, for probably not more than one in twenty-five, or perhaps fifty, could respond to the demand, should they be encouraged to follow dental prosthesis as a calling.

Artistic ability, therefore, should be among the first requisites to the study and in the practice of prosthetic dentistry. It would be far better for those who engage in its practice to have acquired a theoretical as well as a practical knowledge of the leading ideas of proper proportions, modeling, drawing and harmony of colors, before entering on the work of freshmen prosthesis.

To perfect yourself in this branch should be an upper thought of mind, and in order to accomplish this, you will have no easy task, for, as Dr. Chapin A. Harris says: *"Prosthetic dentistry constitutes by far the largest and most difficult part of dentistry, and this makes it a distinct branch of the Art of Medicine, and gives to it the power to add, as it does, to health, comfort and the enjoyment of life."*

The mechanical dentist, as I understand it, is one who works at a distance from the patient; that is to say, the mechanical dentist prepares a bridge or a plate for a person whom he has never seen. The prosthetic dentist, on the other hand, is one who works on the living subject. He is a man who must have taken a course sufficiently broad to include a knowledge of anatomy, physiology, pathology, materia medica, microscopy, and the kindred sciences taught in the dental college. The mechanical dentist does not need any of these, as he is but a material workman. He has no use for collateral sciences, because he does not come in contact with his patients. There is a tendency at the present time to take an impression and send it by mail to a distant office to have a mechanical dentist make a bridge or plate. This is a mistake, and it will have a tendency to give us a lost art. It will be very much like the art of watch-making. Although watch factories are turning out thousands of watches a day at Elgin and Springfield, it is claimed that there is not a good watch-maker in any of these establishments, because each employe gives his attention to the mechanism of a certain detail connected with the watch and knows nothing of the co-related mechanisms. Are we not narrowing ourselves in our line of work and gradually getting to the point where we specialize too much? Men now extract teeth for children or fill them, and announce that they do nothing else. Although we may not practice all the branches of dentistry and feel competent to deal with all the cases that come to us, it is unwise for us to say to this or that patient, "I know nothing of that branch of dentistry," for in the true acceptation of the term dentistry we should not allow ourselves to become so narrow as to know nothing of the other departments.

Prosthetic and operative dentistry are kindred subjects or

branches of our profession, and should go together. Dr. Kingsley said some years ago that if there was a dentist living who could truly fulfill the definition of his calling, and "God Almighty destroyed all the things that existed on earth, this real dentist could restore all that which God had destroyed." That may be an enormous definition, and rendered with too great latitude, but that was the comprehensive definition that he gave of a true dentist, who produced the art and science side of dentistry.

That the general public appreciates much of what the profession has accomplished there is much evidence extant, but possibly the greatest compliment paid to the art side of dentistry comes from the favorite American writer, Oliver Wendell Holmes, who for years lectured before dental students at Harvard. He has said:

"The dental profession has established and prolonged the reign of beauty; it has added to the charms of social intercourse and lent perfection to the accents of eloquence; it has taken from old age its most unwelcome feature and lengthened enjoyable human life far beyond the limit of the years."

PROPHYLACTIC ITEMS.

BY R. B. TULLER, D. D. S.

The first of these items began in the July number.

J. PETER DUBB, D. D. S.

Now what does D. D. S. signify?

Does it cover the whole scope of a dentist's abilities?

How about Stomatopathist?—and don't leave off the S.

Never heard it before?

Well, you've heard of Stomatologist, and that's another name for the man who operates in the month.

Mouthorganist will not do, though it might apply to some operators.

The fact is, an all around good dentist should have a string of titles.

As for instance A. M.; M. E.; M. D.; D. D. S.; S.—and perhaps others.

The A. M.—Master of Arts—should be first, of course.

M. E.—Mechanical Expert—should be next.

M. D. is a good preliminary to D. D. S. and is useful afterward when systematic treatment may be indicated.

And finally S.—Stomatopathist.

Or, let it stand for Stomatologist if you prefer.

Either is indicative of treatment of the stoma or oral cavity or orifice or mouth other than indicated by dental surgery.

The title or degree given by the states of Massachusetts and New York—D. M. D.—is broader than D. D. S.

Anyway, prophylactics comes more under the head of Stoma-something than under Surgery.

Though surgery may sometimes be a prophylactic measure.

To the dentist who makes a specialty of Prophylactics we might give the title Prophylactopathist, and we could add P. to his string.

P-shaw! Let us get to business.

You know the old saying: "Prevention is better than cure."

But how often really honest, earnest, conscientious dentists forget it!

The most of them plod with one thought paramount—fill teeth.

A patient comes in for examination, young, healthy and the possessor of a set of teeth free from carious defects.

Yes, there are rare cases of that kind even unto this generation.

What does the average dentist do?

He is quite likely to think and say that if all people had such teeth the dentist would have to go out and saw wood.

He will dismiss the patient indefinitely with a compliment for such fine teeth.

He may believe conscientiously that it is the only thing he can do.

Great mistake! Here is a fine opportunity to practice that old rule.

The chances are that if that patient is flattered about having such good teeth—better than ordinary—he will go away and not return until some serious trouble has set in.

He may think he is immune.

Tell him, rather, that he has a set of teeth that are so remarkably good that, so far, they have withstood carious or pyorrhoea onslaught, *but*—

Unless he is somewhere about four score years, it behooves him to try, with the aid of the dentist, to keep them good.

He has the first essential to good digestion—good masticatory machinery.

Good digestion is the primary essential to good health.

Good health generally has a decided influence in keeping good teeth.

And there you are! It works both ways.

The neglect of proper hygiene leaves openings for the assault of the enemy—with most people.

Still I've seen those who the more they neglected, the harder the teeth seemed to get.

But they rarely resist the deposits.

Now and then people tell us of a father or an uncle or some relative, who lived until he was ninety and never lost a tooth—"All sound as a dollar."

And then they fell out with old age. Most of that kind are past and gone.

And their remarkable qualities have not been left behind.

Or more likely their progeny have not lived so close to nature.

Ah, that's the keynote—living close to nature.

But we won't dwell on that for we want to continue our occupation.

It is the deposit fiend that gets his work in when all others fail.

A lady once told me that she lost all her teeth at about 45 years of age by "consumption of the gums."

I'm not so sure but she was right.

Consumption of the gums seems almost as good a name as pyorrhoea alveolaris. Or, I should say, as bad.

It is very descriptive of some cases where the gums gradually disappear, or retire rather, without much apparent deposit.

These things follow a lowered vitality—a break in general good health.

The lowering of vitality predisposes the teeth and adjacent parts to the influence of destructive elements.

There are times in people's lives when the teeth are surely less capable of resisting destructive agencies than others.

Every observing dentist has noted that, especially in the conditions peculiar to women.

Every dentist with a number of years of practice behind him has noted certain periods with his patients when teeth decay with surprising rapidity.

Filling don't seem to be the correct remedy, for decay starts again immediately at margins. And at other places more or less remote.

The necks of teeth seem to be especially susceptible.

Something is needed here more than the mechanical ability to cut out, shape properly and fill.

Furthermore metallic fillings are not indicated.

Here's where cement or something of that nature is a Godsend.

The world—the universe—moves in cycles.

Reiteration:—Anything that seriously affects the teeth affects the stomach.

Anything that affects the stomach affects the system.

Anything that affects the system affects the teeth—a cycle complete.

But it does not always follow that when the system is affected the teeth are the cause.

But it is true that when the teeth are seriously affected the general health is impaired.

Hence, perfect teeth, or teeth in good repair as to fillings, etc., should come regularly and frequently under the dentist's care.

The possessor of the teeth rarely knows of defects until they become serious.

An up-to-date dentist should be not only a tooth doctor, but a good sanitarian.

He must be, as I've said before, a microbe fighter.

For the propagation of the microbe a receptive soil is necessary.

Spoil his truck garden for him!

Physical culture judiciously practiced plays quite an important part for teeth as well as other organs of the body.

Especially is this true of deposit cases.

Aside from instrumentation, surgical treatment and topical medication, tone up the system.

If you are not an M. D. be careful to not conflict with the family physician, nor trespass on his domain.

You can pretty safely prescribe:

Hygiene ..... qs
Fresh air ..... qs
Pure water ..... qs
Wholesome food ..... just enough
Exercise ..... a reasonable quantity

Mix with good common sense and take regularly until bed time —and don't stop the fresh air then. Maintain good habits and retire early.

Visit the dentist once a month. $3.00 please.

THE TEETH OF TIME.

BY REV. ROBERT J. BURDETTE, PASADENA.

[*From a synoptical report in the Los Angeles Daily Times.*]

By invitation of the Committee on Local Arrangements of the California State Dental Association, Rev. Robert J. Burdette talked to the dentists last night (July 11th) at Blanchard's Hall. He came clear over from Pasadena to do it. It was a chance not to be lost. It is precious seldom you ever get a chance to get in repartee with the dentist. When he feels an idea coming he packs a circus tent made of injy rubber into your face, draws his trusty buzz saw into a threatening position, and is reasonably certain that he has the floor. But last night he yielded gracefully to the inevitable.

Ordinarily a dentists' convention is not a topic to inspire eloquence, but Rev. Mr. Burdette made one of his funniest speeches.

Half the charm of what he says is the way he says it. He has

such a dry quizzical way of talking. He hops along through it, and he doesn't care whether you laugh or not. He never can get out more than a few words at a run, then he stands and looks at his hearers indulgently, forgivingly, perhaps till they get over it.

THE BURDETTEISMS.

"Man that is born of woman, is of little hair and no teeth when he is born, and sometimes it would be money in his pocket if he had less of either," said Rev. Mr. Burdette.

"As for his teeth," he continued, "he hath recurring convulsions when he cuts them, successive toothaches so long as he hath them, and as the last one is coming through the first one is falling out; and he entereth the afternoon land of his days, a human machine, having a mouth full of porcelain teeth built upon a plate that is constructed to hold raspberry seeds, so that the last state of that man is worse than the first. [Laughter and applause.]

"Even so if he shall stand up in the glory of old age and say, 'I am a true man,' he is condemned out of his own mouth, for molar crieth unto incisor, 'Thou liest in thy teeth.' Happy is he if he possess the teeth that have the cheek—though not the nerve—thus to reproach him.

DISPLAY THEIR "FALSE."

"Much honored is any man to stand before this assembly; the representatives of a profession whose work, since the conventionalities of civilization have abolished the custom of scalping, stands at the head of all surgery. Like the sun dial, your work marks only the smiling hours. The rest of us conceal our shortcomings; we hide our mistakes; we deny our infirmities; while you, oh, fearless, honest men, you glory in the display of your "false." This is indeed tooth in. [Laughter and groans.] I do not wonder that you groaned. The rest of us groan when it is tooth out.

TOOTHACHE AND POESY.

"Shakespeare—whose genius transcends mere human culture, could exalt the toothache and never lose a note of grandeur. In his words I glorify your profession, for

" 'Your desert speaks loud, and I should wrong it,
To lock it in the wards of covert bosom,
When it deserves, with characters of brass,
A forted residence against the tooth of time.'

"You see, Shakespeare evidently knew nothing about gold filling. But he knew what toothache was. We have internal evidence for that. He recognized its grandeur of anguish, its titanic potentiality of pain. He used it as a simile for the deepest and most distracting throes of human agony and rage of grief.

"Shakespeare never treats the toothache lightly nor irreverently, after the shallow fashion of the every-day humorist. In 'Much Ado

About Nothing,' when poor old Leonato is heart torn in an agony of grief and shame, bitterer than death, in the wildness of his rage and suffering, spurning the sympathy of his friends, he cries:

"'I will be flesh and blood,
For there was never yet philosopher
That could endure the toothache patiently,
However they have writ the style of gods,
And made a push at chance and sufferance.'

"Shakespeare never repeats, therefore when thrice he uses the toothache as a figure of the profoundest suffering that can rack mind and body, we know with what reverence and gratitude this immortal man would have dedicated the greatest work of his pen to the California State Dental Association. [Applause.]

HIGH-PRICED TEETH.

"Under the old Hebrew law, 'if a man smite out his servant's tooth, he shall let him go free, for the tooth's sake'; that was the value of a single tooth—the whole man. [Laughter.]

DENTIST'S CROWN OF GOLD.

"Well may the dentist wear his crown of gold upon his patient's teeth; for right royal is he in pedigree and fame. Whatever he does he does sublimely. When he harpoons a hysterical nerve to see if it be alive, he leaves no doubt in the mind of the patient, the ears of the neighborhood, or the duty of the Recording Angel, that the nerve and the patient's organs of phonation are as much alive as they are sadly out of tune.

"We admire him as a calm and progressive corrector of human evils as we view him putting a gold filling in Mr. Bryan's wisdom tooth, or filling the mouth of a preacher with a rubber dam—the only kind that preachers and dentists—I speak under correction of the dentist—are permitted to use. And that, too, is in keeping with the time, for theology of today is nothing if it be not elastic. [Laughter and applause.]

HUMAN REPAIR SHOP.

"If you bring a brand new piece of humanity to the dentist, a dimpled baby with the gummy, toothless grin of infantile happiness wrinkling its downy visage, it awakens no professional interest in him. It is too new. By and by, when there are repairs to be made, the mother brings the little one to the high chair behind the screen.

Nature, and the physician, and the nurse, and the minister who christened the child, have all done their best. The little human machine has been fairly started on its seventy year run, and it hasn't run ten miles before it must go to the repair shop. The higher the civilization the greater the strain upon the machine. Something to be braced; something gone awry that must be straightened; some-

thing gone so loose that it must be removed; civilization to be rebuked and nature to be corrected; and the dentist repairs and corrects the mistake of nature and civilization, peaceably if he can, forcibly if he must. The more delicate the machine the more need of continuous repair.

"We must in all honesty and the highest appreciation exalt the repair shop.

AMERICAN THE BEST.

"And of all dental repairers on earth the American stands not only at the head of the highest class but he stands in a class alone—without competition outside of his own country. [Applause.] The highest praise ever accorded to the American dentist we heard in the cities of Europe last year. Some repairs were necessary in the mills which for many months had been grinding the vulcanite steaks of Italy, and fracturing the flinty relics of the stone age which the French people are taught to call bread. [Laughter.] We found in a city of Switzerland a promising sign in blue and gold —'American Dentist.' That was what we wanted. We climbed the stairs hand in hand—nobody ever goes alone to a dentist's—whispering words of encouragement and cheer to each other. We entered the sanctuary. A man, bearded to the eyes, saluted us in German. 'Do you speak English?' I asked. 'Nein,' he replied. 'Spraechen sie Deutsch?' 'Nixie weeden,' I said, and we left 'the American dentist' waiting for customers who could speak German. [Laughter.]

SPEAKER SURPRISED.

"Much do I wonder, that I, who should have been the star subject at the clinics, should appear before this learned body of professional men as an orator. For I am not a man in whom the dentists take delight, however much they may regard me as a curious and interesting study. I have no doubt that the thought which flashed into the dental mind as this speaker confronted you, whistling his words with painful effort through the waste spaces where the teeth used to be, many years ago—a mocking reproach to dental cunning and learning—was 'an enemy hath done this thing.' Yet am I not here to mock you? [Laughter.]

NOT HIS FAULT.

"I was about to say that it was not my fault that I do not smile down upon you in the glittering grace of hard finish porcelain. Like the woman in the scripture 'who had suffered many things of many physicians, and had spent all that she had, and was nothing bettered, but rather grew worse,' so have I writ my experience with the dentist. Each successive man to whom I went, praying for more teeth, not only refused to give me that for which I asked, but took

away at least one of the teeth I had. Oh, some of the more hopeful ones tried. [Laughter.]

MISFIT PLATES OR MOUTH.

"I have carried misfit plates in my pocket, where, as I moved about, I could hear them snarling and biting each other in professional jealousy. [Laughter.] But gradually the verdict of united dentistry became unanimous. They laid all the blame upon me. They said my mouth was not made right. It would not fit any plate that human skill and dental science could shape. I said that my mouth was made first, and the plate should fit my mouth. They insisted, with many long and impressive words, that my mouth did not fit. [Laughter.]

"One or two cheerful practitioners did offer to remove every tooth I had left, saying they could do something for me if they started in with an entire outfit. But this was so much like building a new barrel around an old bunghole, that I hesitated. [Laughter.]

"And for years I have gone up and down this land eating my bread in the sweat of my mouth, making my living with my degenerate jaws, counting my few remaining teeth every morning to see that none had been captured or added to the death roll, for I knew that as the ranks of the Old Guard were thinned, there could be no recruit to take the place of the captured veteran. [Laughter and applause.]

BROUGHT DOWN THE HOUSE.

"And when in far away Syria, there came the request that I should deliver an address before the California State Dental Association, my entire household woke the echoes of the Jordan Valley with inextinguishable laughter. The very Arabs of the camp enjoyed the humor of it with unbroken sets of the pearliest teeth that ever lighted up a laugh. A little flame of wrath smouldered and flared, red and fitful, under my mirth. I said:

" 'These dental Philistines—accent heavy on the Phil—they have shorn Samson of his locks; they have put out his eye-teeth; and now when their hearts are merry in the house of Dagon, they say, "Call for Samson that he may make us sport." And you may remember how excrutiatingly funny Samson was. He brought down the house.' [Laughter.]

"Ah, well; the dental excuse—good excuse—for my impossible mouth is a good one, whether it be valid or no. I, too, make frequent use of it. Whenever, after trying my best through a long evening of mirth to bring a smile to some hardened countenance in the audience, grim, stolid, inflexible, hopelessly stupid, incurably assinine, the fixed degeneration of clammy imbecility, I say, 'The fault is not with me, nor of my oft-repeated jokes; it is the man;

he is devoid of the sense of humor.' And he grieves me no more.

ALL IN THE FAMILY.

"This fun of ours is all in the family, oh brother dentists, for I am one with you and one of you. I, too, love a genial display of teeth, hand-made or natural; perfect in surface or showing the radiant gleams of costly filling. I, too, am a jawsmith. [Laughter.]

"'But,' says the critical and professional listener, 'this speech of yours does not fit the subject.' Oh, my brother, remember what you said about my mouth—your subject does not fit my speech." [Laughter and long-continued applause.]

THE DENTIST AS SEEN BY THE DOCTORS.

BY NORMAN BRIDGE, A. M., M. D., LOS ANGELES.

Most people delight in personalities. Novels and biographies are the most interesting books of all, and a detective story is always fascinating because it deals with the personal motives and doings of folks. Newspaper and magazine publishers have in late years acquired some large fortunes because they have taken advantage of the inherent yearning of mankind for the pictures of people and the gossip about them.

One of the prime desiderata of our lives is a psychological compound mirror, wherewith we may see our moral and esthetics backs and back-hair just as they appear to others, and our gaits and general address and ways of doing things as others see and measure us.

The things that other people think of us are the most interesting if not the most delightful discoveries we ever make. We are not always satisfied with the estimates of others; we often complain and sometimes quarrel about them, and are happy or unhappy after we have found out what they are; yet we are forever seeking, guessing and wishing to know this very thing. We toy with this class of information as a miller does with the candle. Notwithstanding it sometimes hurts we come back to it again and again. We wish to be thought well of and in a particular way, and often, I fear, not the best way; and we grope about in the hope of finding what shall please our egotism, whether it profits us or not. We like to be profited, but are instinctively averse to having it along lines and theories that are not our own.

The information is generally for our good, since it is likely to enlighten us a little, and it may take down our conceit and encourage our better efforts. It is a great misfortune if it increases our egotism, for this is a quality that we are rarely short of and often have to spare.

All this is true of classes and guilds in a measure, as it is of individuals, only it is more useful, less personal, and conspires less to

individual pride and vanity. As an act of duty we should refrain from saying too complimentary things of others for fear of doing them harm. I shall hope to keep this truth distinctly in mind in what I say of the dentists to-night.

The dentists constitute a body of professional citizens, mostly men, who are devoted to science and the amelioration of human defects of health, comfort and beauty, and seem to be mostly devoid of vanity, and only teachable by any outside opinions insofar as some trifling want of perfect proportion may have crept into their lives and work by reason of the intensity of their pursuits and through inherent faults of human nature. But an outside opinion cannot be wholly useless if it can throw some sidelights upon even this marvelous collection of professional people. Only the views of the medical man can hardly be said to be wholly from the outside, since the dentists have been trying with some success to break into the medical profession. Really they do belong to it, and so its views are from the outside only because the greater that includes the less is always on the outside.

But the dentists, I fear, most of them go on with their various kinds of work, mechanical and vital, day after day, and, for a year at a time, fail to note the fact that they belong to the profession of medicine. They live and work in their restricted field as best they may and are content. Perhaps the doctors are only a trifle less forgetful of the fact that we have a specialty of mouth surgeons who can help us when we need, and do help in a large way.

Probably one of the greatest difficulties the dentists have is to keep a due sense of their bearings, although individually they may be quite ignorant of this fact. This difficulty inheres in the work of every class of men who are devoted to a special kind of work, and are making rapid progress in any art or science. Fresh discoveries more or less compel a recasting of the science and art, and become new points from which to take reckonings. If the discoveries are vital they are liable to become fads to those who see their great value; and one useful fad, with a strong hold, makes us slow to discover the next great truth that perchance may promise a new impetus to the progress of the science, while it appears to aim at the very life of the fad; and few men know when their own beliefs have become fads.

No set of men working in a field of special study can be taught much about their science by those outside their lines, or be helped much, except, perhaps, to a slight degree in keeping their bearings correct. What I mean by keeping their bearings correct is that they follow in a due and orderly way the tenets of thought and conduct they themselves have established. This would seem to be an easy thing to do, but it is not easy for us all; and it is hard to keep our bearings when our science and art are growing. Think of the full

meaning of this. We adopt a new truth, then, if it is significant, it becomes a part of our automatic lives, to guide us unconsciously and without thinking. But the world moves, and we must be ready to lay this automatism aside and try to forget it and take up with a newer truth that supercedes and surpasses it. It is a hard task, rarely completely accomplished, and whoever is able to do it perfectly has the rare gift of adaptability that is the test of greatness. Usually we splice our rule of to-day on to that of yesterday and use a composite of the two, and lose our consistency in the delusion that we have dispensed with the one and adopted the other. We need some court of adjudication to tell us when we miss the paths we ourselves have blazed and pretend to follow. The Supreme Court of the country does not make laws or a constitution, but it does say that we ourselves having made such an instrument must follow it, and make laws not inconsistent with it, nor with each other.

Our friendly critics, if we have such, are those who, a little removed from the details and tension of our life-work can the more readily see whether we are consistent with the doctrines we have proved and wish to follow, and may tell us when we stagger and gyrate. A due sense of proportion is more than I have indicated; broadly it is a correct understanding of how the facts that we know fit into the rest of the universe. There is less a dearth of facts in the heads of the people (poor as most of them are in this particular) than there is of knowledge how these are related to all other facts. The grasp a man has in this particular is his measure of power; otherwise it is his common sense.

I shall not attempt a catalogue of all the examples of broken proportions among dentists. The fear of reprisals, as well as lack of time, warns me to be brief.

Many years ago dentists found it easy, if not enticing, to extract teeth—sometimes fairly good ones—and insert plates with artificial teeth in their stead. Then it was learned that for many reasons these good teeth ought to be saved and preserved for usefulness, and that to extract them is a sin. Thus grew up the very good general rule not to extract such teeth but to try and save them.

Yet we have seen many instances of a dentist following this rule so blindly that he has tried to save teeth that were utterly useless and worse—useless because the morbidity of gums, poor fixation in the jaw, constant tenderness, and the great suffering involved in the work of repair, made the saving of them many fold too expensive in nerves and money for any trifling use they might render the individual.

I have seen a sensitive woman suffer enough long-drawn-out pain to atone for the sins of a multitude merely to let an ambitious dentist try to save a tooth that could never by any possibility be of use for mastication, and was sure to be a nuisance as long as it was attached

to her. The courage and patience of the woman were as heroic as the ambition and good intentions of the dentist were benighted.

To the man from the housetops this sort of procedure is ridiculous. The suffering patients have the right to the greatest sum total of happiness, both with their teeth and the rest of their bodies, and not to be sacrificed to even good academic ideals. The dentist has no right to such ideals, or any ideals that have not the prime object of the permanent and paramount good of the patients as their foremost factor.

The work of the dentist must often hurt the victim. We know this to our grief, and we forgive him beforehand for a large part of it. We know he cannot help some of it. But careful watching of him at his work has led many of us to think that a part of the pain is preventable. He often works as though he were operating on a non-sentient being—he grinds away and twists and files and jabs without a word. I hope his silence helps him to do his best work. But he often executes maneuvers in the victim's mouth that he must know, if he thought about it, would severly hurt him; and he often knows beforehand that he is about to hurt, yet not a word does he say until the victim jumps, when he says, "Oh, did I hurt you?"

Would it lessen his ability to do good work, if he should occasionally warn the patient that he is about to hurt him? I have known a dentist to cause the most awful agony to a patient for whom he was excavating a cavity, preparatory to filling it, by repeatedly and without warning running his infernal burr over a minute sensitive spot, the location of which he knew perfectly. I have seen another dentist in preparing a similar cavity keep his instrument off the sensitive part, and dig away all about it, leaving it as a little hillock in the cup, till al else was done, then say quietly to the patient: "Now I shall have to hurt you, but it will be only for a moment; bear it as well as you can." One sweep of the burr and the hillock and the pain were gone, and the patient's gratitude for the consideration shown him had made him forget his suffering. This was nothing but putting the amenities of life into one's professional work, and I don't see why every dentist cannot do it, instead of some of them.

It is not necessary that one should disregard the nerves of others in order to do good dental or surgical work; rather, it is a truth most of us have forgotten that scrupulous regard for the nerves and feelings of others enable us to do better work than we otherwise could do. One of the greatest aids to the best thought that is in us is to keep our own minds serene, unruffled and free from temper. That surgeon who is cross to his assistants and nurses, who blurts out roughly when things go wrong at an operation, is incapable of good thinking at the time. He may plan his operation beforehand and carry it through in poor temper, but he cannot meet obstacles and unexpected situations with good generalship unless his mind is

serene. He needs the reflex effect upon himself of the amenities he extends to others.

A significant lesson in psychology is found in some operating rooms in the apparently studied politeness of the surgeon. "Forceps, please." "Thank you, sir." "Let up on that retractor a trifle, if you will." "How is the pulse, doctor?" "Thank you." The man who does that cannot be stampeded, and any censure he is obliged to make to his helpers goes to the mark and cuts deeper because it is uttered in a low tone and in language that would do to print. And the greatest influence of this kind of conduct is on the surgeon himself. It is a psychological impossibility that he can talk and act with tranquil show of reserve strength without increasing his own power in this direction. For it is true, and always has been, that if you put yourself in the attitude that usually belongs to a mental mood, you thereby favor the growth of that mood. To behave with superiority begets superior thinking and an enviable poise.

The thoughtful doctors can, I think, fairly condole with the average dentist on the fact that he is handicapped in certain unavoidable ways. He is supposed to have a nice genial employment, indoor life and all the elegancies; he has the nicer people for his patients, and can cultivate the highest civilization; but he lacks the felicity of being called up at night as physicians are, and going out into all sorts of weather, of snow and sleet, and cold and heat, and ministering to all sorts of people, and often getting his sole pay in his mental illumination as to how the other half of the world lives. The duty to have some outdoor life, even with its drawbacks, is a friend rather than an enemy; for the temptation to stay in unwholesome house air is one that needs to be fought against constantly, and the dentist needs this kind of warfare. The physician's insight into all phases of life either makes him greater or meaner.

Then the fixed body posture of the dentist at his work and the fatigue of certain of his muscles are wearing of his powers. Nobody with a weakly body should be encouraged to study dentistry; I don't mean that one should necessarily have an athletic body, for such usually is a misfortune, but one with good resisting power and able to bear grief day after day. I am conscious that this is not the common advice given to prospective dental students, but it is good advice. The dentists, to keep body and spirit fresh and strong, ought to have more outdor exercise than the average doctor or lawyer or business man requires. The need is so great and urgent that we ought to condone their Sunday games and even their hilarity if thereby their strength may be maintained. Their games and their outings make them more human; give them their superb qualities of good temper, mental poise and muscular strength, that make their ministrations a pleasure to their patients.

I think everyone who considers the wide variety of the work of

the average dentist in general practice, must be impressed with the great versatility required to do all his kinds of work well. He must be a good mechanic to fill teeth well and fit artificial ones, and to do all of thc many services for esthetic effects. He must be a metallurgist, and know all the effects of temperature and chemicals; a worker in metals of several kinds. He must be a surgeon of varied attainments; and he must have a knowledge of bacteriology and know how teeth decay, if not why they do. He must make his tooth-filling work so thorough that it can defy all the many varieties of microbes in the human mouth; for here nature does not help him a particle but does her best to undo him. It is a compliment to the profession that this sort of work stands so well as it does. But this is the kind of work that is usually held to be the crucial test of one's professional skill, and it is no matter for wonder that men should have given it proportionately more attention than they have the more purely surgical part of their functions. On the surgical side nature helps, so the operative measures may be slighted a little. Nature alone sometimes cures, and then any sort of non-harmful measures may do. Do all these facts sometimes lead men to slight their surgical work and suffer themselves to get rusty on this side of pathology?

There is danger that as a professional specialty dentists may become narrow. Every medical specialist is in the same danger and the smaller the specialty the greater the danger. The more one studies his specialty exclusively and as though somehow it does not deal with the whole of the man, the more he is likely to get narrower. Especially is this the case if he has not been in the general practice of medicine. And as few dentists ever do this as a beginning of their professional careers, they need to be more on their guard against warping. Their experience as to the human body as a whole is certainly narrower than that of the average medical specialist, who often graduates into his specialty from general work in medicine.

But the public often forget that the dentist can belong in the same category as the medical profession. I have known a boy to be discouraged from studying dentistry for the alleged reason that it was so little and narrow a calling; and I have known parents to apologize to their friends for the fact that their daughter was going to marry a dentist. Neither difficulty would have been thought of if it had been the profession of medicine instead of dentistry,—yet dentistry is properly a part of the medical profession by every possible consideration. And I am sure this idea ought to be fostered by the profession itself, and fostered by being broad doctors as well as by claiming the fellowship.

Is it true that the work of the dental profession tends specially to narrowness in professional thought and action? If it is then it

must be because its members do not study as much as they ought, the minute anatomy, the physiology and pathology of those tissues of the body which dentists deal with, and their relations with the rest of the system. I very much fear that this indictment holds against the rank and file of the dental profession. The physicians and surgeons are guilty also, but that does not excuse the dentists. No man ought to expect to go to heaven on the virtue of the sins of others; besides it is a mean thing to plead this fact.

There is no professional study possible that is more calculated to broaden and enrich the mind and take the dental profession above all criticism than the study of anatomy, physiology and pathology of the oral region, and through these of the whole system. As long as teeth decay and get covered with concretions; as long as gums recede from their teeth, and teeth get loose in their sockets, so long will there be subjects calling for study and investigation, and questions burning hot demanding solution at the hands of the dental profession. In the life of no man now living will these questions all be settled, and no ambitious student should think they are beneath or beyond him. It may be that a knowledge of all the sciences will be needed to solve some of the problems, but if so let all the sciences be mastered. Malaria and yellow fever, and diphtheria, and myxoedema, and cretinism have been cleared up and largely mastered; so can these opprobrious disorders of the human mouth be. And let them be, and may no man because he bears the restricted name of dentist think he is debarred or absolved from doing something toward clearing up the numerous subjects—causes of human discomfort—that his daily observation shows him so vividly.

Notwithstanding some shortcomings on the part of the dentists I think the doctors rather like them;—they have to like them, for they cannot keep their own teeth in order without them. And if the doctors say things of the dentists that are too severe, they may properly expect to be severely hurt the next time they get into a dentist's chair.

No man in his own vocation has done more honor to his country than the American dentist. He has easily led all the world in his line, and has shown the Old World fossilized tardiness the meaning of that ingenuity that it has delighted to call "Yankee." He has personally gone into foreign capitals and courts, and, against all the disadvantages of his character as an alien, has found favor and risen to influence and often to affluence, and he has taught the Old World dentists a new science and a new art. He has been as full of surprises as a wizard, and the surprises have contributed to human comfort.

The dental schools of this country surpass all others, and I presume that a single one of our schools has in recent times had nearly or quite as many pupils in a given year as all the schools of Europe

combined. And the pupils are better taught, and the teeth of the people are better cared for, and for this and for the remarkable cosmetic effects—things of beauty past all description,—the people are ready and willing to pay, and pay well. The things of beauty that dentists put into people's mouths are not only a pleasure to the people who wear them, but to the public at large, and we of the public ought for this, and for making it possible for people to speak plainly and without the disagreeable impediments of bad teeth or no teeth, to be willing to subsidize the dental profession for it all.

The handiwork of the dentists has postponed or abolished the digestive second childhood of the race—or that part of it that belongs to us; has lengthened human life and increased the vigor of people while they live by improving digestion as well as the pleasure of living and eating. These benefits have often tipped the scales in favor of life, and so have saved it. They have taken mouths misshapen from accident, heredity and the vicious habits of childhood, and made them typical of beauty. If the surgeons could transform the faces of people as the dentists have their mouths they ought to be able to banish a large part of human ugliness out of the world.

One of the most pitable deformities of all the congenital list is that of the cleft of the palate and upper lip. And it has been reserved for one of the dental specialty to show the surgeons how it can be corrected in infancy and early childhood with almost absolute certainty, and with so little loss of blood (by comparison with the older methods) that the mortality from the operation is almost abolished. Like most beneficent discoveries, after we know about them, since it is found to be so simple, we wonder we had not all of us thought of it before.

A dentist has directed our observation forcibly to the mouth as exhibiting even more than the exterior of the body the stigmata of degeneration. We may not all agree completely with his theories, but we cannot discount his contribution to the subject.

From the scientific side the dentists have not been idle; many of them have been progressive in the highest degree. We can hardly expect that more than a small minority of any profession can ever add to its common stock of knowledge. But one of the greatest compliments that can be paid them is that they (especially the progressive ones, who belong to scientific societies) have always governed themselves by the spirit of ethics that actuated Hippocrates two thousand years ago when he gave to the profession of medicine his immortal code, the gist of which is that the good of the patient is the supreme law. That standard has never been changed nor lowered, and I believe the dentists have adhered to it as well as the other doctors have. They have commendably refrained from finding cavities where they do not exist, and from building up or creating teeth where they are not needed.—*Proceedings of California State Dental Association.*

COMMERCIALISM VS. PROFESSIONALISM.

BY W. J. TAYLOR, D.D.S., SACRAMENTO.

The birth of the twentieth century finds the art of dentistry transformed from a trade to a profession, second to none in ameliorating the suffering of humanity, and attracting to its ranks men of marked ability and learning.

Many are attracted to it by a desire for social and financial standing, who are totally devoid of professional instincts, and have no conception of the qualifications it necessarily demands.

The three important factors which have produced this change are the colleges, associations and journals. Each responsible for the wonderful development made in dentistry during the past century, and today, while much remains to be accomplished, these are the mediums which have placed dentistry among the learned professions.

Conscientiousness to duty and self is the pivot upon which rests our determination to maintain the high standard of an art which has challenged the admiration of the world.

Dentistry has been developed to such an extent that it now is entitled to as much credit and honor as is accorded the professions of law, medicine, and theology.

Despite this acknowledged advancement many evils must be checked, if our standing would not be impaired; quackery with its empirical and deceptive methods must be trodden under foot, our laws must be strengthened and enforced, and the public generally educated to an appreciation of our ability and integrity.

When the public learns that a dentist should possess something more than a mere knowledge of pulling teeth, making plates, gold crowns, etc., and demands that he possess as well some medical skill; when every practitioner will be a graduate in medicine, then, and not until then, will our profession be above the temptations of commercialism.

We are dwelling in an age of commercialism the like of which has never been witnessed; it permeates all walks of life and classes of society and clutches with outstretched hand at the throat of science, art and religion; degrades, debases and debauches talent and ability, and with its insidious grasp causes its votaries to bow at the feet of mammon.

During the past decade commercialism seems to be running rampant, attempting to overthrow all that is scientific, progressive, and for the betterment of mankind.

Montesquieu says: "We see that in countries where the people are moved by the spirit of commerce, they make a traffic of all the humane, all the moral virtues; the most trifling things—those which humanity itself demands—are there done or there given for money.

Honest competition honestly proclaimed, although in a profession, is fertile of good; it produces individual development, sharpens the wit, quickents the hand, stimulates us to nobler achievements and raises the individual from a process of stagnation to the higher and nobler duties for which nature intended him.

Dishonest competition degrades and blunts the moral senses, lowers the standard of art, prostitutes the conscience and creates in the mind of its advocate one supreme thought of money! money!! money!!!

Professionalism in its broadest sense, is that course in the conduct of affairs which draws a line of demarkation between that which conforms to certain rules or standards which tend to progress and science; differentiating between commercial, mercantile or trade pursuits.

Young men who have had professional and ethical ideas instilled into them during their college days, after entering business for themselves are often swept into the sea of commercialism by their desire for wealth, and are shipwrecked upon the rocks of barter and trade.

Many of these young men are entering our ranks imbued with the idea that dentistry offers golden rewards not to be found elsewhere, little dreaming that by talents and ability they are entirely unfitted for a profession which today demands so much of its followers.

A young man who had been somewhat undecided as to what calling his life should pursue, had a dream and in the vision he saw the letters "G. P. C.," which he interpreted, "Go Preach Christ," and thought he had been directed to follow the ministry.

He sought his religious counselor, who, after hearing of his dream and its interpretation, said that as much as he disliked to differ with him, he was compelled to believe that the true interpretation was for him to "Go Plow Corn."

Doubtless many a man has misinterpreted his dream, and entered upon a career for which he was neither fitted nor intended.

The young man starting out in life armed with his diploma must not allow himself to believe that the greater part of the battle of life has been fought, and henceforth he can take things easy.

Truly the foundation has been laid, but by diligent toil the superstructure must be reared and he must turn defeat into victory.

To be successful, certain qualifications are necessary; if he be fortunate enough to possess them at the start he must by undaunted pluck, unyielding energy and unceasing effort keep apace with the rapid advancement being made in his profession.

Chesterfield says: "It is very certain that no man is fit for everything; but it is almost certain, too, that there is scarce any man who is not fit for something, which something nature plainly points out to him by giving him a tendency and propensity for it."

The choice of any pursuit in life, especially a professional one, should not be determined upon without due consideration for the responsibilities involved.

Professional men are governed in their acts by certain rules and regulations, established by custom, thereby placing upon the individual certain responsibilities and restrictions which he cannot shirk without loss of professional prestige.

The rules of professional conduct are termed ethics, being synonymous with all that is good and true, having as their basic principle that cardinal attribute of "Doing unto others as we would they should do unto us."

We should never allow ourselves to be swerved from the paths of rectitude and duty in our pursuit after wealth, but ever standing firm upon the rock of our convictions, repudiate the alluring advances offered to those who would forsake their professional standing and enter the ranks of the charlatan and mountebank.

As long as time lasts there will be men engaged in dentistry who will hold as the highest aim in life, the making of money, regardless of the means of its procurement.

A class composed largely of those of inferior intellect, uneducated, lacking in moral courage, and entirely deficient in their ability to differentiate between right and wrong. With them the size of the fee is the all important question, the quality of the work and the pationt's welfare being a secondary consideration; on the contrary, with a professional man, by habit a gentleman, by training an expert, with a love for his work, while the fee is important, his greatest desire is his patient's good, and the enduring quality of his operations.

All professions and lucrative pursuits are becoming crowded, by the unskilled and the unlearned, but they remain on the lower levels, while at the top there is plenty of room for those possessed of ambition, energy and skill.

The opportunities in dentistry are greater today than ever, and offer to those who desire to engage in an honorable, scientific and liberal profession, all that can be obtained in the other learned professions.

There is no use denying the fact that there is a commercialism attached to our profession, as well as those of law, medicine, and theology. We often hear of a lawyer being disbarred on account of unprofessional conduct, or a minister of the gospel being tried for and found guilty of heresy, but who ever heard of a dentist being found guilty and receiving punishment for the flagrant violation of the code of ethics?

Any one who has given any thought to, or taken any notice of the trend of affairs, has not failed to notice the tendency towards the organization of the various business and professional interests of the country.

The dental profession do not seem to realize the advantages to be derived from the process of organization. Through indifference and the lack of aggressiveness many reforms are unaccomplished, which were they backed by a united and aggressive body, would become a reality and of paramount importance to us as a profession.

Standing as a united body, insistent in our demands for the adoption of rigid laws for the protection of the laity and the profession, legislators would be moved to consider the merit of our demands.

If we desire to see our profession maintain the enviable reputation which it now enjoys—and we most assuredly do—we must not allow its honor to be assailed, its dignity lowered, or its fair name besmirched by those who possess no respect for their calling.

We point with pride to the record of our achievements, but in order to maintain the high standard in the application of scientific knowledge, we must ever advance, allowing no obstacle to check the onward march of our professional attainments. We should endeavor to clothe our calling with dignity and respect, devoting our best efforts to the fulfillment of a high ideal, believing in our ability, and full of confidence in ourselves and our profession.

Advancement is being made in all walks of life, and competition is demanding the best that is in us, our patients are demanding better work as they become better educated, and the methods in use a decade ago must be relegated to the past. This is a progressive age and he who would maintain his professional standing must be ever on the alert to meet the demands made upon him. To do this necessitates hard work, thought and study. But who will dare say that time devoted to our personal and professional improvement is wasted?

One of the great sources for professional advancement in dentistry is the journals, containing, as they do, the latest and best thought relative to our profession. While they contain much that is not new they are of special benefit as a stimulus to nobler and grander efforts.

Dental societies and associations are productive of much good, and are the mainstays of true professional life, having as they do for their object, the promotion of scientific research, development of their members in practice and theory, creation of good fellowship among their members in uniting them by ties of friendship and fraternal love.

The dental profession is crowded with men who think they cannot possibly leave their offices for a few days to attend our annual gatherings. They plod along in the same old rut, unconscious of the great benefits to be derived from an exchange of thoughts and ideas, unmindful of the influence exerted by associational work. They pass through life using the same methods and with about as little

knowledge as they possessed when they started to practice.

We owe it as a duty to ourselves, our profession, and our patients, to ever keep abreast of the times, adopting those methods and appliances which will place us in the front ranks, and elevate us above the common and ordinary.

Every reputable dentist who desires to promote and advance his professional and personal standing should be enrolled in his local and state societies, giving his active, moral and financial support in an effort to upbuild his profession and give it a status so well deserved.

The shining lights of our profession, such men as Atkinson, Bonwill, Harris, Kingsley and Webb, beside many others, labored long and earnestly for the betterment of their professional brothers. These men were not of that class who conducted "Dental Parlors" and "Dental Associations" to enrich themselves and debase their calling; on the contrary, their ambition, zealousness and ability placed them on the highest rung of the ladder of fame.

Many of the men who are today engaged in the practice of dentistry as a commercial pursuit are graduates of our best colleges, who on account of avarice have forgotten the teachings of their Alma Mater and have cast aside whatever professional inclinations they may have possessed and entered the ranks of what is commonly called the advertising dentist.

Our new State dental law, were it rigidly enforced, would do much to eradicate the abuses practiced in our profession, but it should go further and be more powerful. The State Board of Dental Examiners should have the power to revoke the license of any practitioner who, after a fair trial, has been adjudged guilty of breaking the law or of violating the American Code of Ethics.

The curriculum of every dental college should contain a course of lectures on ethics, and an examination held in this branch, thus impressing upon the mind of the student the importance of the subject.

Our dental laws should be universal, thus allowing a practitioner to remove from one locality to another without the necessity of undergoing an examination. To accomplish this colleges should all adopt the same standard and requirements for graduation, and when a diploma is granted it should be honored and permit its owner to practice anywhere in America.

National legislation may be necessary to bring about such a change, but it is sure to come, as the present system is the offspring of corruption and fraud and is totally devoid of justice and reason.

Dentistry offers great opportunities for the practice of deception and fraud by the dishonest and unskilled, and for the time being

it is difficult of detection, but sooner or later it is sure to make itself evident.

"There was a painter became a physician, whereupon one said to him: 'You have done well; for before the faults of your work were seen, but now they are unseen.'" And so it is in dentistry, many of our faults are unseen, yet they stand as a monument to our poor workmanship to blast our reputations and ruin our business. Cheap and inferior operations may succeed for awhile, bringing business and independence, but those who practice along those lines are sure sooner or later to reap as they have sown.

Many of our patients doubtless entertain an idea that dentistry is purely a commercial business, believing that our charges should be in proportion to the amount of material consumed, failing to take into consideration the amount of time required, skill necessitated, and nervous energy expended in the performance of honest, conscientious work. It remains for us to educate our patients to a true understanding and due appreciation of the services rendered. If we do not, they certainly will never truly appreciate our efforts in their behalf.

We should never hesitate, nor lose an opportunity to expose the nefarious methods of the charlatan, as they are largely responsible for whatever condemnation is cast upon our profession.

In days gone by—thanks to our new dental law—some of our professional brethren who claimed to have the interests of the profession at heart gladly accepted students for a monetary consideration, without regard as to their qualifications, and turned them loose to prey upon an unsuspecting public after serving an apprenticeship of a few weeks or months. Imposters and frauds may succeed for awhile, but moral worth and careful preparation for one's profession, backed by knowledge and skill, will be recognized and honored.

May we ever act with fidelity to our profession, thus meriting the approval of our professional colleagues and the good will and confidence of the laity; may our actions and teachings be an incentive to the accomplishment of nobler and grander acts in the world of progress, and may our supreme thought be for the betterment and uplifting of mankind.—*Proceedings of California State Dental Association.*

ORAL HYGIENE.

BY I. P. WILSON, D. D. S., M. D., OF BURLINGTON, IOWA.

Read before the Iowa State Teachers' Association, at Des Moines, January 2, 1903.

Mr. President, Ladies and Gentlemen of the Iowa State Teachers' Association:

I come to you to-day with greetings from the National Dental Association, and from the Iowa State Society, and in behalf of those bodies, and through the professional courtesy of the executive committee of this association, I am to address you on a subject that is of common interest to us all.

I can assure you, ladies and gentlemen, that I appreciate this privilege, and it will be regarded by the two associations that I have the honor to represent as a mark of inter-professional courtesy well calculated to strengthen the bond of union that should ever exist between the different departments of science.

The National Dental Association, recognizing the fact that a potent factor in producing disease, suffering and ill-health, to say nothing of the unsightly deformities of the teeth and the jaws, as a result of neglect on the part of the uninformed masses, has endeavored for years to devise some means of educating the public regarding the proper care of the teeth and the study of the very important subject of oral hygiene. To this end a committee of five was appointed by the association, consisting of Drs. Richard Grady of Maryland, H. H. Johnson of Georgia, I. P. Wilson of Iowa, F. W. Stiff of Virginia, and W. S. Walker of Mississippi. Dr. Grady was elected chairman of the committee and Dr. Walker secretary, and, as usual, the chairman and his able secretary are doing the bulk of the work.

It has been the duty of this committee to secure, if possible, the reading of a paper before each State Dental Society of the United States on the subject of Oral Hygiene, and furthermore, to request each State Teachers' Association to grant the courtesy that you have so kindly extended to the dental profession of Iowa.

We desire to prepare the way for more efficient work in the future by arousing an interest on the part of the teachers in our schools, and what we regard as a humanitarian cause, that the fixing habits of correct living, and imparting hygienic knowledge, the value of which will be priceless to the young rising generation, even good digestion and good health.

The National Association has already under consideration the preparation for a text-book, or at least suitable instructions that may form a part of the teachings on general hygiene in the public schools. It is a matter of surprise and regret that is of real value that

some of the teachings are meager, some unscientific, and some positively erroneous.

I will venture to quote here what may be found in some of our school physiologies. One writer suggests that "in using tooth-picks care should be taken not to dislodge fillings." This is an unnecessary caution, and an unwitting reflection upon the skill of the dental profession. Another has the following: "Teeth should be examined, that if the enamel is removed and decay commenced they may be filled with gold foil. All amalgams, pastes and other cheap patent articles should be rejected, both for the sake of the teeth and general health." Comment is unnecessary. A primer intended for instruction of children in the school-room teaches, "that milk is a good food but it is better for the teeth after it has been boiled than when left uncooked," and the same little primer adds that "our teeth will let us have all the eggs we want but they like them best soft boiled;" that "we may have all the fish we want, if we only eat what is fresh and sweet;" that the pretty red color of the cheeks and lips of the Irish are due to their habit of eating potatoes." I might give two or three other silly quotations from the same little primer, but will forbear. However, I will give another bit of information from the same author. He asks the question: "Why does a dog keep on gnawing his bone after the meat is all gone?" Answer: "He does it to keep his teeth clean and strong." Think of such nonsense being introduced into our school physiologies, and taught to our children. The subject of hygienic knowledge is of too much importance to receive only passing notice, and that, too, of an indirect, vague and misleading character, in the physiologies adopted for use in many of our schools.

The study of prophylaxis, of both the medical and dental professions, as well as the laity, is attracting more attention at the present time than ever before. Nowhere can hygienic knowledge be so effectually disseminated as through the public schools. This fact is being recognized, more and more, by the civilized world. Considerable space is now given in many of the school physiologies, not only in the United States, but in foreign countries, regarding the evil effects of alcohol and narcotics. This is as it should be, and the subject to which I am calling your attention to-day is one of no less importance than those named above.

The National Dental Association has sought the co-operation of the State dental societies and the school boards of this country to aid the great humanitarian work it is endeavoring to accomplish. In many States the results have been very satisfactory. It is to be regretted, however, that many of the school boards have treated this matter with indifference, and sometimes with ridicule. But others have given the encouragement desired, and the teeth of thousands of children in the schools have been examined and a tabulated record

has been made of the conditions that were found to exist, and invaluable data have, thereby, been obtained which are being utilized by the dental profession to the incalculable good of the human family.

The study of the human teeth of the masses enables the dental profession to search out some of the hidden causes of diseased and deformed teeth, the reflex influence of which can but result in a blessing to the human race.

Coulton's High School Physiology contains some good hygienic teachings, but we find it mixed with a good deal of error. He states that the wisdom teeth make their appearance about the twenty-fourth year," when eighteen or nineteen is more nearly the average time. The same author says that the teeth should be brushed at least twice a day, on rising and on going to bed," but suggests that it would be better to brush them after each meal also." The last suggestion should be made an imperative direction and not a simple suggestion. The teaching should be after every meal. You will notice that the teachings of Coulton are that the teeth should be brushed after the last meal in the day, and again before the first meal of the following day, so they are only cleansed after one of the three meals of the day. I find this teaching pretty well observed by many educated people, and I may say that the condition of the teeth thus cared for is by no means equal to the hygienic condition found to exist when religious cleansing is observed after each meal.

And, again, if one is addicted to the pernicious habit of eating between meals, nibbling at candy, and taking a drink of milk, at any and all times the mouth should immediately thereafter be thoroughly cleansed. And the reason for this must be obvious to all. The warmth of the mouth promotes fermentation long before the evening hour has arrived for again using the brush. Children should be taught that piecing between meals is ruinous both to the teeth and the digestive system. A fermented condition of particles of food around the teeth furnishes a fruitful field for bacteria, and the breath that might otherwise be as pure as the zephyr of May morning becomes tainted from impurities. I firmly believe that no one thing can have more to do with the comfort of the human family, with the health of our race, and with longevity itself, than clean, healthy teeth and gums. To one who has not given this subject a careful study and observation this statement may be unwarranted and without foundation; but let it be remembered that mastication is the first step in the series of processes for the digestion and assimilation of our food, and that unless this process is thoroughly, hygienically done, the digestive system and the general health suffer the consequences. Food cannot be well masticated with diseased and aching teeth, nor in the absence of a part or all of the grinders; nor is the food clean and healthful after being masticated by foul teeth. And then neglected teeth covered with decomposed vegetable and animal

matter, not only vitiate the food before reaching the stomach, but poison the life-giving oxygen before reaching the lungs.

Under such unfavorable conditions, how can the blood, the great storehouse of the physical organism, be supplied with the rich nutrient material for building up and replacing the broken down tissues of the body? I believe that any closely observing dentist will bear me out in this statement that an organism thus exposed is an easy pray of disease.

The dentist often meets in his practice persons with sadly neglected teeth, who are suffering from loss of appetite, indigestion, neuralgia, headache and general debility as a direct result of an unhealthy condition of the dental organs. In many of such cases the health is rapidly restored by correcting this unhealthy state of affairs, and bringing about the sanitary condition of the teeth and gums. My observations for more than a quarter of a century have led me to believe that typhoid fever and kindred diseases are not infrequently the result of the effluvia arising from the decomposed vegetable and animal matter in and around the teeth. Why should it not be so? We shall admit that decomposed vegetable matter in our cellars, the poisonous germs in the water we drink, will breed disease. Why should not these same enemies to health, abiding in the mouth for days, weeks, months and years, do the same deadly work?

I might call attention to other phases of this subject, but I fear that the allotted time has well nigh expired.

If I have succeeded in arousing an interest on your part of this very important subject, and can feel assured of your co-operation in bringing about a more thorough system of imparting hygienic knowledge to the young and rising generation, I shall feel rewarded for performing, to the best of my ability, the duty assigned me.

EDITORIAL

THE AMERICAN DENTAL JOURNAL.

The American Dental Journal is now eight months old, and we believe the dental profession will agree with us when we say that it is about as healthy and vigorous a baby as any journalistic infant ever born.

We already have a circulation which is one of the largest among the dental periodicals of the west, and our subscription list is rapidly increasing.

It affords us pleasure to take this opportunity to thank the members of the profession for their loyal support, and for the many kind words of indorsement and encouragement.

Our aim is to make each succeeding issue an improvement over its predecessor.

With the next issue we will inaugurate a Progressive Course of Practical Instruction with Drs. Hart J. Goslee, Geo. W. Cook, B. J. Cigrand and R. B. Tuller as instructors. The lectures will be practical and to the point. These gentlemen are college teachers and prominent members of faculties, and the course will hence doubtless prove to be of inestimable value to the busy dentist. The subject of porcelain in the various phases of its present application will be dealt with, with a view of teaching it in such a manner that any dentist without previous experience may do the work successfully, even in the absence of clinical demonstration.

The headquarters of the American Dental Journal at the coming Odontographic meeting will be in room "I," where we will be pleased to receive our friends, and will be glad of the opportunity to extend the right hand of fellowship to the many visiting dentists.

THE SPECULATOR AND THE DENTIST.

In these times of stock gambling and get-rich-quick schemes a word of caution to the dentists will do no harm.

The business training of the average dentist, or, rather, the lack of it, makes him a poor match for the sharks who have mining, oil, or other stock to sell; and many dentists have sad tales of woe to

tell of stock that did not "double up" as promised by the smooth-tongued promoters.

The energy and tact brought to bear on the unsuspecting purchaser by the above-mentioned individuals is worthy of a better cause. They have for agents a dentist among dentists; physician among physicians, etc., etc. This inspires confidence in their fellow practitioners and makes the work easier for the promoter.

We do not mean to convey the idea that all stock companies are dishonest, for many are not. But the dentist who has a few hundred or thousand dollars to invest will do well to consult his home banker and act upon his advice. It is a part of his business to invest money for his clients, as it is the business of the dentist to advise the banker regarding the care of his teeth. The returns from money invested in legitimate channels are not so large (on paper) as the returns in the get-rich-quick stock, but the element of chance, as to loss of savings invested in this way, is greatly minimized.

We know a dentist long since past the meridian of his earning power, who, having laid aside part of the fruits of his labor, for use in approaching old age, was induced to invest in a scheme which promised large returns, but which returned neither dividends nor capital invested. This case is but one in many and the dentist owes it to himself and to his family, if he has one, to move with caution in investing his savings, so that after years of faithful service, as a benefactor to mankind, he himself may not, through misplaced confidence, be made to suffer in his declining years. For,

"Of all sad words of tongue or pen,
The saddest are these, it might have been."

AN EPITAPH.

(Contributed by Dr. Geo. H. Pernie, Bartow, Fla.)

A worthy dentist rests beneath
This high-heaped, grassy mound;
True man was he, although his teeth
Full often false were found.

All obstacles he did despise
And often would he brag
He rather liked, than otherwise,
To run against a snag.

Much suffering did he assuage,
His patients lost each pang,
Though erst the throbbing tooth might rage
As they his doorbell rang.

His speech was frequent and most free,
Right seldom would he pause,
Although a master hand was he
At holding others' jaws.

He owned no family or clan,
But he gave all satisfaction,
For all agreed he was a man
Of excellent extraction.

He died without a sob or groan,
He lived in decent gravity,
And now, beneath this mossy stone,
He's filling his last cavity.

—*Dental Hints.*

I smoked twelve boxes of cigars;
'Tis nothing but the truth.
I chewed tobacco many pounds
To soothe my aching tooth.

I filled it up with opium,
I ate scarce any food;
I swallowed quarts of ague drops,
But ache the grinder would.

At last I vowed "I'll have it out,"
And to the dentist went;
But when I sat down in his chair
My vow I did repent.

For when his awful instruments
Were ranged before my sight,
I jumped full five feet from the floor,
And yelled with all my might.

"My friend," said he, "I'll draw your tooth
With less degree of pain
Than any dentist in the town;"
So I sat down again.

Then he took hold with a savage hook;
I uttered a loud cry.
"Dear Sir," said he, "I hurt you not."
"Dear Sir," said I, "you lie."

He gave the most awful wrench;
I wished that I were dead;
For all the torments in the world
Seemed centered in my head.

He pulled, he tugged, then out it came,
That horrid tooth of mine;
The monster nearly broke my jaw,
And charged me six and nine.

—*S. P. Heath, in The Odontablast.*

THE LAST ACHING TOOTH!

Respectfully inscribed to Mr. C. E .Hall, Dearborn Dental Mfg. Co.

'Tis the last aching molar, left severely alone,
All his cranky companions have long since been drawn;
Not one of its kindred, no fang e'en is nigh
To reflect back its twinges when it gets on a high!

I'll not leave thee, thou rum one to bedevil the old gum,
Since thour't achy and shaky, thy time, too, has come!
Thus rudely I'll sever thy lease from the head
Whence thy fellows in torment long since have fled.

And soon will I follow, nor wait for a day,
Thy fangs with new grinders though the devil be to pay!
When sound teeth have vanished and you're going it alone,
Who the devil would keep you to rack his jaw-bone!

—Dr. A. G. Browning, Maysville, Ky.

NOTICES OF MEETINGS

NORTHWESTERN UNIVERSITY DENTAL SCHOOL.

On January 28 the Northwestern University of Chicago celebrated Founders Day, this being the 52nd anniversary. All the departments joined in the celebration, that of dentistry being especially prominent, dedicating the new school building. This was formerly the Tremont Hotel, and was bought by the university two years ago and is new occupied by the departments of dentistry, law, and pharmacy.

The dental school is said to be the largest in the world, occupying the 5th, 6th, 7th, and part of the 2nd floor.

MARYLAND STATE DENTAL ASSOCIATION.

The Maryland State Dental Association held its quarterly clinic at the Royal Arcanum, Baltimore, January 17. The clinicians were Drs. C. M. Gengrich, L. W. Farenholt, and G. M. Smith.

The clinic was followed by a banquet in the evening.

ROCKFORD, ILL., DENTISTS BANQUET.

The dentists of Rockford, Ill., gave a banquet January 24. The guest of honor was Dr. T. W. Brophy, dean of the Chicago College of Dental Surgery.

OKLAHOMA BOARD OF DENTAL EXAMINERS.

The Oklahoma Board of Dental Examiners has filed its report of its proceedings together with accounts of all money received and disbursed by them in compliance with the provisions of a certain law entitled "An act to regulate the practice of dentistry within the territory of Oklahoma."

The present membership of the board is as follows:

President, F. D. Suarks, D. D. S., Ponca City.
Secretary, A. C. Hixon, D. D. S., Guthrie.
Treasurer, J. Q. Waddell, D. D. S., Kingfisher.
A. M. Detrick, D. D. S., Oklahoma City.
L. A. Kelsey, D. D. S., Chandler.

LYCOMING COUNTY DENTAL SOCIETY.

The Lycoming County Dental Society, of Pennsylvania, held its annual meeting and banquet, January 19. The following officers were chosen for 1903.

President, Dr. H. K. Krumrine.
Vice-President, Dr. L. H. Voelkler.
Treasurer, Dr. A. B. Robbins.
Secretary, Dr. W. B. Reilly.
Executive Committee, Drs. C. C. Walker, F. J. Richards, and W. F. Trapp.

NEBRASKA STATE DENTAL SOCIETY.

A meeting of the executive committee of the Nebraska State Dental Society was held in Lincoln, January 19. The date for the coming meeting was set for May 19, 20 and 21. The executive committee consists of Dr. H. J. Cole, Norfolk, President; Dr. H. A. Shannon, Lincoln, Vice-president; Dr. H. R. Hatfield, York, Corresponding Secretary.

NEW JERSEY STATE DENTAL SOCIETY.

The mid-winter meeting of the New Jersey State Dental Society was held at New Brunswick January 17.

FOND DU LAC DENTAL SOCIETY.

The dentists of Fond du Lac, Wis., have organized themselves into a society of which the following are officers.

President, Dr. A. H. Gillett.
Vice-President, Dr. J. L. Blish.
Secretary and Treasurer, Dr. W. C. Wise.

VALLEY DISTRICT DENTAL SOCIETY.

The Valley District Dental Society met at Springfield, Mass., January 19. Very interesting papers were read.

THE SIOUX CITY DENTAL ASSOCIATION.

A meeting of the Sioux City (Iowa) Dental Association was held January 26, at the offices of Drs. Wasson and Nisbet in the Metropolitan block.

NORTHWESTERN UNIVERSITY.

At the mid-winter convocation of Northwestern University, held Founders Day, January 28, the honorary degree of doctor of science was conferred on Professor Edward Cameron Kirk, dean of the dental school of the University of Pennsylvania. Professor Kirk is a native of Illinois, but obtained his early education in Pennsylvania.

SOUTHERN DENTAL SOCIETY OF NEW JERSEY.

The Southern Dental Society of New Jersey held its fourth annual meeting and banquet January 21, in the Masonic Temple at Camden.

ROCHESTER DENTAL SOCIETY.

The Rochester Dental Society held a meeting January 13 with Dr. C. F. Bunbury. "Anaesthetics and Extracting" were discussed. Dr. G. G. Burns was the essayist of the evening and the discussion was headed by Drs. G. H. Thompson and F. Messerschmidt. Dr. F. L. Sibley had charge of that part of the program designated as "Incidents."

READING DENTAL ASSOCIATION.

The Reading Dental Association of Philadelphia, Pa., held its annual meeting January 11, and elected the following officers for the ensuing year: President, George Schlegel; Vice-president, Dr. W. H. Scholl; Treasurer, Dr. Elwood Tate, Secretary, Dr. C. R. Scholl, and Executive Committee, Drs. E. W. Bohn, S. E. Tate, and W. D. DeLong.

JANESVILLE, WIS., DENTAL ASSOCIATION.

The annual meeting of the Janesville, Wis., Dental Association was held January 29. The following officers were elected for the ensuing year:

President, Chas. T. Pierce.

Vice-president, Ira Holsapple.

Secretary and Treasurer, R. G. Hart.

A committee was appointed to make arrangements for the Southern Wisconsin Dental Association convention to be held in Janesville on the first Wednesday and Thursday of May. The committee appointed consists of Drs. R. R. Powell, L. L. Leslie, and Ira Holsapple.

ISAAC KNAPP DENTAL COTERIE.

The Isaac Knapp Dental Coterie of Ft. Wayne, met in the office of Dr. J. D. Coyle, January 8th. Dr. Adams read a paper on "Dental Prosthesis."

The next meeting will be a special meeting with banquet and Dr. Hart J. Goslee, of Chicago, has been invited to an address at that time.

ODONTOGRAPHIC SOCIETY.

At the annual meeting of the Odontographic Society of Chicago, the following officers were elected for 1903: President, F. B. Noyes; Vice President, J. P. Buckley; Secretary, F. H. Zinn; Treasurer, G. N. West; Board of Directors, F. E. Roach, L. O. Green, H. A. Drake. Board of Censors, D. M. Cattell, W. Gerling, D. A. Hare.

Personal and General

Dr. E. S. Petitt, of Beloit, Wis., died Jan. 8, of peritonitis.

The North Dakota Board of Dental Examiners met Jan. 14.

Dr. C. E. Williams, of Bartley, Neb., died of heart disease, Jan. 16.

F. M. Shumaker, formerly of Chicago, is now located in Sterling, Ill.

Dr. T. O. M. Sherman died of pneumonia Jan. 27, at his home in Sandoval, Ill.

Dr. John M. Dunn, of Oakland, Cal., is critically ill of pneumonia. His life is despaired of.

F. W. Blomiley, one of the best known dentists in South Dakota, died at Sioux Falls, Jan. 27.

Dr. Hammar has located in Exira, Iowa, where he is in partnership with an old friend, Dr. Oldacre.

Dr. Frank Metzgar, formerly of Moline, Ill., has been appointed to serve on the state dental board of Arizona.

Of the nineteen candidates who took the dental examination to practice in Minnesota, in St. Paul, Jan. 6, nine passed.

Drs. Dunham and Leigh, of Manchester, Ia., have dissolved partnership. The business will be carried on by Dr. Leigh.

Alexander R. Lord, a pioneer dentist of Clyde, aged 65, has been licensed to wed Mrs. Sarah C. Beebe, aged 42, of Vickery.

Charles Goertz, of Brooklyn, N. Y., was arrested on complaint of the New York State Dental Association for practicing without a diploma.

Dr. Harry Gurmeyer has been sentenced at Elkhart, Ind., to serve a term in the reformatory for attempting to kill his sweetheart, Miss Lula Barney.

H. N. Richardson suffered a stroke of paralysis at Shenandoa, Iowa. His brother, who is one of President Roosevelt's physicians, is in attendance.

Dr. R. A. Adams of Clinton was elected president of the Western Indiana Association of Dentists, to succeed Dr. Clarence Williams of Terre Haute.

F. S. James, of Winona, and F. E. Moody were appointed members of the Minnesota State Board of Dental Examiners by Gov. Van Sant, Jan. 21.

Dr. Joseph O. Wells, of Pittsburg, Pa., died Jan. 9, of pneumonia. He graduated from the dental department of the Western University a year ago.

The office of Dr. Alfred W. Berger, of Milwaukee, was broken into Jan. 10 by a burglar and about $100 worth of property taken. The thief was caught.

It was reported Jan. 10th that Dr. E. P. Graves and Miss Fannie Smith, of Cleveland, Ohio, had eloped during the absence of the young woman's father from that city.

The Psi Omega Dental Fraternity has established a chapter in the Indiana Dental College. There were seven charter members and five initiates at the first installation.

The midwinter meeting of the executive committee of the New Jersey State Dental Society was held Jan. 24 at the residence of the president, Dr. F. L. Hindle, in New Brunswick.

The New Jersey State Board has refused to permit dentists with New York licenses to practice in their state until they have been examined and given license to practice in that state.

Early in the morning of Jan. 12, the office of Dr. W. H. Young, of Montreal, Canada, was broken into. The intruders got away with several sets of teeth which had been prepared for patients, and several hundred loose teeth.

The dental offices of Drs. Schwartz & Schwartz and Dr. E. L. Burroughs, of Edwardsville, Mo., were robbed of a quantity of gold used in filling teeth during the latter part of January, the los amounting to between $25 and $30.

Smith Parks, a former student at the dental school of the Northwestern University, has brought suit against the university for $50,000 for an injury sustained there in 1901.

While working in the laboratory, a gas tube exploded, resulting in the loss of one of Parks' eyes.

The anniversary of the New Orleans Academy of Stomatology was held Jan. 28, at the New Orleans College of Dentistry. The officers of the association are Dr. V. K. Irion, president; Dr. H. P. Magruder, vice-president, and J. H. Landry, secretary-treasurer. The executive committee consists of Drs. L. D. Archunard, H. P. Magruder, and C. V. Vignes.

An invention to utilize the waves of the sea in producing light and power has been perfected by Dr. D. K. Bryson, a dentist of Pittsburg, Pa.

The cardinal principal of the new motor is the power taken from the blow of the ocean crest, which, by striking a large float, transmits by means of chain cables and noiseless ratchet wheel, the slightest movement of the waves.

At the banquet held at Media, Pa., for the dental doctors, Jan. 28, the following officers were elected:

President—Dr. Fred M. Smith.
Vice-President—Dr. H. I. Haines.
Secretary—Dr. J. H. Campbell.
Treasurer—Dr. H. L. Smedley.
Executive Committee—Drs. S. B. Luckie, A. H. Grubb and R. M. Cox.

Bachus, No. 43, is the title of the following bill recently brought before the Illinois legislature:

"Amending the child-labor law by providing that the certificate indicating the age of a minor employe shall be accompanied by an affidavit from a dentist, setting forth the dentition of the child and stating his opinion as to what is the probable age of such child."

A complimentary dinner was given at the New York Athletic Club, in New York, Jan. 21, to Dr. Chas. S. Stockton, of Newark, to celebrate the completion by him of forty-five years of continuous practice of dentistry. On the committee in charge of the affair were dentists representing the profession from New Jersey, New York, Pennsylvania, Maryland, the District of Columbia, Illinois, Connecticut and Massachusetts.

Hungarian dentists and chemists claim to have discovered a valuable local anæsthetic, an alkaloid, nervocidine, the hydrochloride of which is stated to have similar properties to cocaine, but to produce a more lasting anæsthetic. The base is obtained from an Indian plant, "Gasu Basu." Although its anæsthetic effect is much more prolonged than that of cocaine, the length of time necessary before this effect supervenes, the irritation caused by the drug and the toxic symptoms it produces do not point to the probability of its being of general service, except, perhaps, in dental practice.

Dr. Chas. F. Howell, a dentist with an office at No. 659 Powers Building, died suddenly of heart disease, at 7:30 o'clock, Dec. 31.

He held the degree of master of dental surgery, which was granted, until about three years ago, by a state board of examiners. He was a prominent member of the New York State Dental Association, the Seventh District Dental Society, and the Rochester Dental Society. In the meetings of the various societies he was always active and took great interest in the discussions. He contributed liberally to the dental press.

The statement that there are "openings" for American dentists in the island of Madagascar is not a hollow joke, as some might take it to be, but a real fact. At present there is but one competent practitioner on the whole island, and the people are sufficiently modernized to need and to appreciate good dental work when they can get it. The governor-general of Madagascar, in replying to a letter on the subject, says that any dentist wishing to settle in the island would not have to undergo an examination, apply for a French diploma, or be subjected to any particular formality, except that he would be under the control of the board of health in all that concerns his professional status. He would have to pay the license, which, for Tamatave, the chief city, is $10 per annum. Assurance is also given that any American coming to Madagascar would receive a hearty welcome from the authorities and every attention in facilitating business. This should attract many young dentists to the island.—*H. C. Leslie's Weekly.*

DENTISTS TAKE ACTION IN THE DOUBLE TELEPHONE PROBLEM.

Jan. 5, at the regular monthly meeting of the Jackson Co., Mich., Dental Association, the question of a double telephone system was taken up. The dentists do not want to be obliged to pay for two telephones, and it was decided to dispense with one telephone. Which one is to be decided after a conference with the managers of the two companies.

The dentists hope to get the co-operation of the Jackson County Medical Society in the stand they have taken, and with this end in view a committee was appointed to confer with the medical men. It is estimated that from one hundred to one hundred and fifty instruments will be ordered out if the contemplated action is taken.

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